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☆ THE MOTION PICTURE CAMERA MAGAZINE ☆

April
1942

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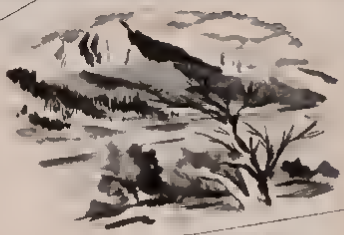

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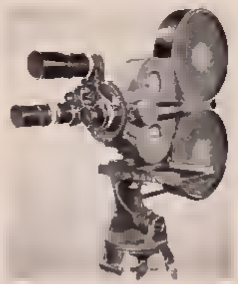

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AMERICAN CINEMATOGRAPHER

THE MOTION PICTURE CAMERA MAGAZINE

VOL. 23 APRIL, 1942 NO. 4

CONTENTS

The Front Cover

This month's cover shows members of the Long Beach (Cal.) Cinema Club making a scene for America's first amateur-made Civil Defense Film. As leading lady Mary Ann Purdy chops her way into a set representing a bombed rooftop, Director Ray Fosholdt and cameramen Val Pope and (below) Clarence Aldrich shoot from the parallel, while Script Clerk LaNelle Fosholdt and Chairman Mildred Caldwell watch from the ground.

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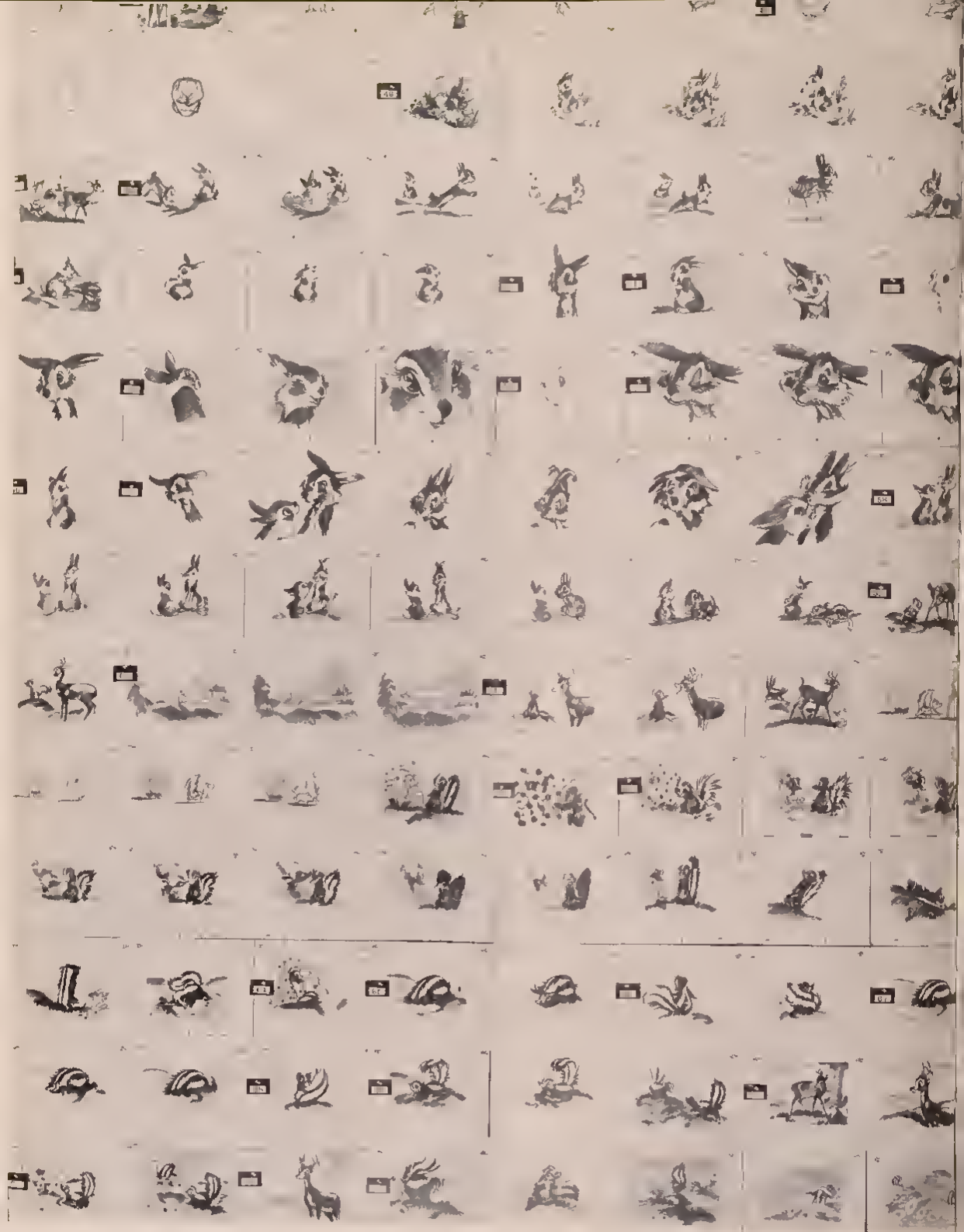

Animated Cartoon Production Today

By CARL FALLBERG

BEING funny is a serious business. Particularly in the animated cartoon industry a cartoon studio's raw materials are ideas, and it must take these ideas, put them through an assembly line, and mold them into a commercial product to be sold on a competitive market.

And assembly-line methods are essential to successful animated cartoon production on anything approaching a commercial scale. It is technically possible for one person to do everything from the first preliminary story-sketches to photographing the finished drawings on film; but there is such an infinitude of detail involved (if you count the sketches and tracings, there are probably two or three drawings to be made for every frame in the completed film!) that the number of hands doing the work simply *must* be multiplied. And if the product of these many hands and brains is to be a coherent whole, their work must be coordinated—standardized—to get the desired results.

Standardization, then, is the necessary element in animated cartoon production. Conformity of methods and systematized procedure is absolutely essential in all phases of the production of a cartoon—from the initial story idea right on through to the finished color print. A picture passes through so many different hands during the course of production that confusion would result from inconsistent methods. After all, a cartoon studio is a factory in which entertainment is manufactured by the assembly-line method, and the secret of success on the assembly line lies in doing the job the same way each time, for a uniform result.

However, it isn't as uninspirational as it might sound. There is no reason to believe that cartoons are suffering because of the system used in their production. All it really amounts to is organized, disciplined thinking. Good results in any endeavor are obtained only by intelligent, practical efforts to produce those results. It doesn't matter whether the tool used is a shovel, a lathe, or a brain.

The time and thought that goes into developing a cartoon story must be well organized in order to meet rigid production schedules. Ideas don't "just come." They have to be ground out by a conscious process. Creative thinking has to be disciplined to eight hours a day, five days a week. A story man in a cartoon studio has to let his mind wander freely, but keep his feet on the ground at the same time. He has to create by the clock, so to speak.

Story work on a feature cartoon follows the same procedure as that on a short, except that the time and money budgets are naturally greater. A short requires from three to six weeks for story work, whereas a feature story might be in process of development for a year. On features, too, there is usually a lot of side work connected with research on settings and characters.

It's necessary in a discussion of this sort either to strike averages or to cite specific examples when mentioning methods and procedures. Since the Walt Disney studio has more or less set the standards for the whole industry, it might be just as well to use as an example here the general production procedure that an average cartoon goes through in the Disney plant.

Most of present day cartoon story material is original, being developed within the studios. Even when an idea is borrowed from an old fable or fairy tale, the content and "business" has to be altered and modernized for cartoon treatment, so that usually very little remains of the original story but the characters and basic story line.

This isn't without justification, for some of those old fairy tales got pretty gruesome, full of murders, torture, and assorted mayhem. Even in the original version of "Snow White" the wicked queen ended up by rolling down a hill in a nail-studded barrel. This sort of stuff, obviously, can't be used.

However, details like this are not what limit the use of most fairy tales. Other factors have to be considered; general audience-appeal, sympathetic characters, familiarity of subject-matter, and so on. Then again, it's found to be about as easy to cook up an original cartoon story as it is to adapt a fairy tale or fable.

Whatever the source of the material, the first job of the story man is to develop a rough, overall continuity as quickly as possible, without worrying too much about the various gags or detailed staging of business at this point.

A story man in a cartoon studio isn't a writer, in the literal sense of the word. He doesn't write his ideas out, or type them, like a writer in a live action studio, but draws them up with rough sketches. He might scribble or type the bare outline of the picture, or, as he's sitting in his room courting inspiration, may jot down the ideas and gags as he grinds them out of his brain, but immediately afterward he will get those ideas into picture form with rough sketches. Since the animated cartoon is a pictorial medium, certainly the best way to develop an idea for it is by means of pictures. A cartoon man is trained to think visually; he thinks of how his ideas will look on the screen, not how they will read on paper.

It isn't absolutely essential that the story man be an artist, but he should be able to express his ideas by drawing, at least in a rough way, so that they can be comprehended without the necessity of much verbal explanation. Written descriptions of action are hardly ever bothered with, except for someone's personal reference, indeed, many of the story men and animators have become so facile with their pencils that they can draw up a gag faster than someone could write the description in longhand. And there is a genuine prejudice against reading in some quarters of the cartoon business, they've become so used to thinking of everything in terms of pictures.

In the early days of the animated cartoon, story work was sometimes done in conjunction with actual production to the extent that animators developed their own gags and business as they animated a scene, being given so much footage to fill up with "something funny." But this off the cuff method of working was soon done away with as the cartoon came of age. Larger staffs brought about specialists for every job, and story work and animation became distinct functions.

Now, as studios have enlarged and become more complicated, another specialized function in story procedure has been added in the form of the story-sketch man. This artist's job is to do nothing but sketch up the story man's ideas, making careful, "dressed up" drawings, with consideration for character drawing, setup, size, and camera-angle.

By permitting the story-sketch artist to take over the burden of drawing up the continuity, the story man can devote more of his time to creative thinking, and not worry too much about the mechanical process of drawing. Often enough a good sketch artist, while not creative from the standpoint of story ideas, as a good creative draftsman can aid the story man in presenting an idea by the excellence of his drawing. Quite often, the value of a gag lies in the way

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CARTOON SCRIPT. On the opposite page are reproduced the story sketches which formed the script for a sequence of Walt Disney's forthcoming feature cartoon *Bambi*. Each drawing represents one scene, the blank frame with diagonal cross lines, a lap-dissolve. Note how completely they tell the story of the three companions who vow they'll have nothing to do with anything feminine but successively succumb to feminine charms.

Readers of THE AMERICAN CINEMATOGRAPHER have frequently asked us how modern animated cartoons are made. We feel particularly fortunate, therefore, in obtaining this series of articles in which Mr. Fallberg will detail the progress of a Walt Disney cartoon from the inception of the story idea to the completion of the final Technicolor print.—*The Editor*

IT'S STILL A THRILL—!

By JOHN DORED, A.S.C.

DO any of you remember what impression your first sight of motion pictures made on you? Most of you were probably so young that you've just grown up to take the movies for granted. But the first film I saw—thirty feet of a scene of a moving train ground through an Edison Projecting Kinetoscope—made an overwhelming impression. It literally changed my whole future. Looking at that moving train on the screen, I sensed something of the immense possibilities that lay in the motion picture . . . I felt also that producing such pictures would lead to a life full of thrills and adventures. So right then and there, in a darkened room in a photographic laboratory in Moscow, Russia, in the year 1904, I decided to devote my life to cinematography.

Thirty eight years have elapsed since then, and as a professional cinematographer I have seen most of the globe. I certainly haven't been disappointed as to the thrills of a movie-making career. Nine or ten wars, to say nothing of the thrills of Arctic exploration by airplane, dirigible and submarine, have seen to that! But in addition, my first impression of the limitless possibilities of motion pictures has been strengthened by seeing at first hand the good that the cinema can do in bringing about better international friendship and understanding, by explaining to people of different nations and cultures how their fellow-men in other lands live and work and think.

That's what I've been doing this last year in South America, and what I hope to be doing again soon when I return to Brazil. Please don't think of it as "propaganda," for it isn't. It's the much more straightforward and constructive job of trying to interpret, with the universal language of the camera, the people and cultures of the two Americas to each other. When Paramount sent me to Rio de Janeiro to put my camera to work cementing the "Good Neighbor" policy, I was amazed to discover how little had hitherto been done to provide the South American nations with newsreel coverage. Little beyond an occasional travelogue, which too greatly played up the picturesque Indians, gauchos, and so on of the hinterlands, and almost completely overlooked the many fine, modern cities like Rio de Janeiro, Sao Paulo, Bahia, Buenos Aires, and the rest, and in doing so blinded most North Americans to the fact that Latin America has a culture as thorough, and in some cases even older than that of the lands north of the Rio Grande. Because of that ignorance, too many of the films sent our South American neighbors not only trod harshly on sensitive Latin American toes, but grossly misinterpreted the Northerners themselves to their Southern neighbors.

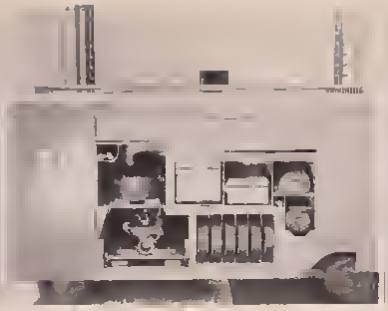
The South American, no matter from what country he may come, is a very delightful gentleman so long as you don't meet him with the patronizing air of a very superior "big brother." Perhaps because of the many years I had spent making newsreels in almost every part of Europe, I did not start off with that liability, so it did not take me long to begin to understand the character, the customs and the traditions of the South American peoples, and to make real good friends with them. After that, my task became an easy one, and one which I believe is proving of equal benefit to the United States of North America and to the nations of South America alike.

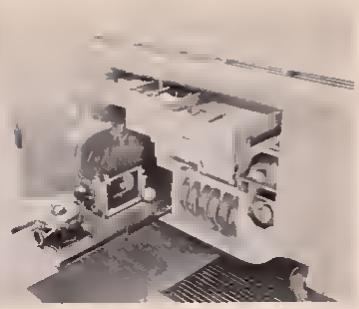
I strongly believe that in our modern, troubled time, one of the best mediums of bringing the peoples of the world to a better understanding is by means of intelligently selected newsreel stories. This war certainly upsets a great deal of this kind of ideal newsreel work, because there are so many passions, sympathies and anti-sympathies involved. But after all, the war won't last forever—and when it is over I hope the work I am doing now may blossom out and bring lasting benefits to these peoples who should be "good neighbors" in fact as well as in name.

In my own personal journey from Moscow to Rio, I took a long and roundabout route. My first move was to go from Russia to Paris, where I could have a chance to learn more about the then infant movies. I spent a year with Pathé Frères, France's great pioneer organization, then went to London, where for a year I worked with the old Hepworth Film Co. In 1907 I landed in New York and joined Pathé's American branch at Bound Brook, New Jersey. A year later, I crossed the continent to join the World Film Co. studio in Portland, Oregon, and finally found myself in Los Angeles with the old Selig Polyscope Co.

Of those old days the names and faces of Cameramen Alvin Wyckoff, A.S.C., Henry Reimers, Jim Crosby, and others, are still vivid in my memory, as are Director D. W. Griffith, Hobart Bosworth,

(Continued on Page 187)





Left: one of Warner's new camera trucks. Center, stowage space is provided for a complete Mitchell BNC camera outfit. Right: when moving from one stage to another, the camera need not be demounted. Note drawers for finders, filters and other accessories.

Equipment Trucks Streamline Camera Department Operations

By E. B. McGREAL

Head of Camera and Still Dept., Warner Bros. Studios

DURING the past few months at the Warner Brothers' Studio we have developed and installed a system which centralizes the complete photographic equipment of a production unit in what might be termed a mobile equipment-locker. Every item of cine and still equipment is housed in a completely-enclosed equipment-truck which is delivered from the camera and still department to the stage, where it serves both camera-crew and still-man throughout the day as an always-accessible locker to safeguard equipment, accessories and film-supply. At the close of the day's work, the equipment is replaced in the truck, which is left on the stage, locked, and subsequently returned to the camera department where it is serviced during the night. Both the system and the equipment-trucks upon which it is based have proven eminently worthwhile in actual practice.

In planning this system, we had three principal objectives in mind. First, we realized that the Assistant Cameraman's real work is on the set; there is no real advantage to be gained from making him spend half an hour or more every morning collecting the various parts of his outfit from their storage-places, checking out his film-supply, transporting it to the set, and reversing the process every night.

Second, we wished to centralize the storage and handling of each of our ten Mitchell BNC camera outfits and their accessories, and the still outfits which go with them. The delays that occur when an Assistant has to be sent from a distant stage to the camera department to get some momentarily necessary but otherwise little-used accessory are not only costly, but very likely to interrupt the thread of creative inspiration upon which players, director and director of photography are working, to the great impairment of the picture.

Third, we realized the desirability of keeping all equipment and accessories not only permanently together, but safely under lock and key. In every studio, experience has shown that delicate and costly photographic equipment, if scattered haphazardly about the average set, can all too easily become damaged, lost or sometimes stolen. At any time, this risk is serious enough; today, with mechanical and optical equipment, raw materials and shop capacity at a premium because of the demands of the War Effort, it is critical.

We have found the answer to all of these needs in our equipment-trucks and the system with which we use them. Each truck serves at all times as a permanent locker for all of a unit's cine and still equipment. In the morning, the trucks are delivered, each to its appropriate stage, by a gasoline-powered industrial tractor which is part of the camera department's equipment. The Assistant Cameraman and still-man report directly to the set, on a call decidedly later than would otherwise be possible. During the day, they work from the truck as from a handy locker. In the evening, they replace their outfits in the truck, lock it, and their day's work is over, considerably earlier than would be possible otherwise. The Assistants especially appreciate this, as it gives them time to participate with the director of photography in the daily rush-print screening, and to study their previous day's work. Meanwhile, the tractor again collects the trucks, and returns them to the department, where they are serviced, film-supplies replenished, etc., and made ready for the next morning's work.

In developing these mobile lockers, we made the design as complete as possible. Then we called separate meetings of the Assistant Camermen and the Still-men, and let all of them study and criticize the design. Quite a number of practical suggestions resulted, which were incorporated in the final design.

The ten equipment trucks now in use were built completely in Warner Bros.' Studio shops. Each truck rides on four small, semi-solid tires. The front axle is steerable, and with a wide tread which permits the unit to be turned in virtually its own length. The towing-handle is equipped with a safety-latched coupling which attaches to any of the

(Continued on Page 173)

Train of camera trucks leave the camera department to be distributed to the various stages for the day's work.

The rear compartment provides a mobile locker for the still man's complete outfit, including 8x10 Graphic, holders, flashbulbs and all accessories.

FIG. 3.

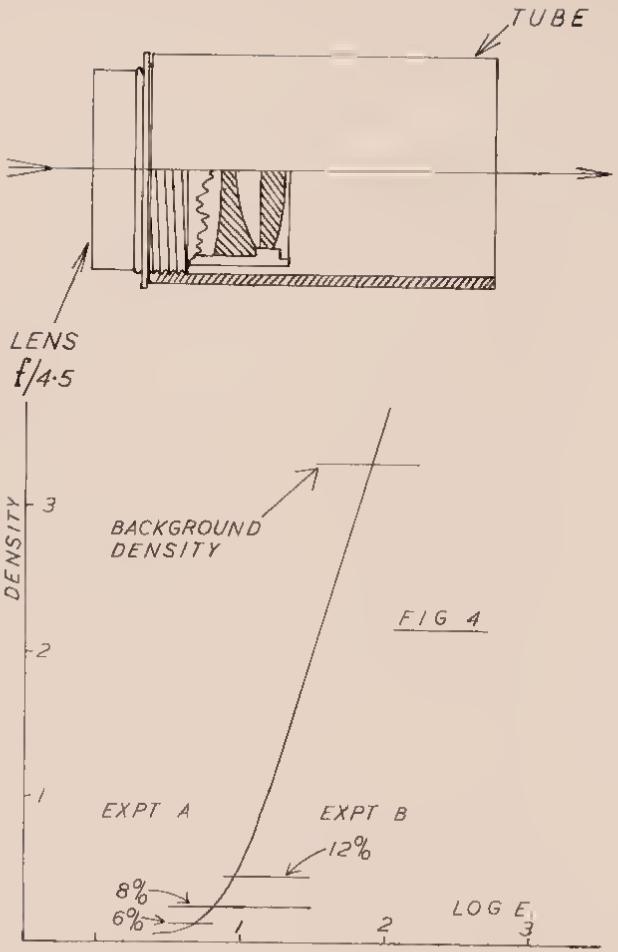


FIG 4

Scattered Light In The Lens-Mount

By P. C. SMETHURST

THE general conclusion given both by theory and experimental practice as described in last month's article is that the level of scattered-light illumination in the focal plane will decrease as the lens field angle is reduced One would thus expect to find that long-focus lenses gave, on the whole, better contrasted images than those of normal focal length In practice, of course, the exact opposite is the truth, and it is thus necessary to determine why this should be the case by attempting to find what further factor is involved

It used to be stated dogmatically at one time that the contrast loss in a telephoto lens was due to the scattering of light on the way to the lens from a distant subject, but a careful examination of the distant tones of a landscape (which should show the same contrast, whatever the focal length of the lens used, if this explanation is valid) in negatives from normal and long-focus lenses shows that there is a material loss of contrast in long-focus work which cannot be accounted for by this suggestion. Moreover, scatter on the way to the camera must surely be a function of the atmospheric moisture present, so that in a really dry climate no such contrast loss in long-distance work should be found While atmospheric moisture, therefore, is certainly a partial answer to the question, it is certainly not responsible for all the contrast loss experienced in telephoto work.

Looked at from a physical and mechanical point of view, however, the difference between a normal camera lens and a telephoto or long-focus type is principally that while the normal lens has a squat and stubby build, the long-focus type is attached to a long narrow tube in order to place it correctly in front of the camera Since this tubular mount is the sole real difference between the two types of lenses it is not surprising that when one takes up a telephoto or long-focus lens, and looks through it from the back at the sky, a bright ring of scattered light may be seen at some distance up the interior of the tube. The loss of contrast must be attributed to this scattered light reaching the focal plane

It may now be argued that since all good lenses have well-blacked mounts with a matte finish, the intensity of this scattered light is not sufficiently great to cause the effect postulated Unfortunately for such an argument, the average reflection factor *at normal incidence* of a good matte black is about 4%, but when the glancing angles involved inside tubular lens-mounts are concerned, very much higher reflection factors than this are found Apart from this, the type of reflection at such glancing angles tends to be specular rather than diffuse The original source of the light which strikes the internal walls of the mount is also clear- lenses are not usually provided with lens-hoods which cut off actually at the edge of the negative area, and even a ring of subject subtending the small angle of 5° at the entrance node of the lens is quite enough to make a great nuisance of itself.

It is important to note that this type of light-scatter is not in any way affected by the surface treatment of lens glasses, since it is essentially unconnected with the lens itself. The mount alone is responsible for the scatter and the contrast loss

In this connection, it is interesting that while telephoto lenses normally show a contrast loss and a distinctly flat screen-image when printed, most of the telephoto shots taken at the Coronation Ceremony in Westminster Abbey some years back showed remark

(Continued on Page 186)

Fig 1 Fig 2 Fig. 3 Fig 4

KEY-LIGHT vs BACKGROUND ILLUMINATION

By KARL FREUND, A.S.C.

ONE of the most frequently misunderstood aspects of lighting is the relationship between key-lighting and background illumination. In professional cinematography, we normally light, expose and print to obtain a normal tonal and textural value of the face of the principal player or players. Yet the background may be of high or low reflective value—that is, anything from pure white to jet black, including of course any conceiveable light or dark coloring.

We can and do further complicate this by increasing or decreasing the amount of illumination falling on the background. As is well known, one can control the tonal rendition of any surface, almost regardless of its inherent coloring or reflective value, by giving it more or less illumination. It is quite possible to make an actually black surface photograph almost white by sufficient overlighting, and to make a white surface appear black by simply keeping the light away from it.

Yet all too often in both technical discussions and actual practice, we find even experienced cinematographers giving evidence that they do not clearly understand the relationship between key lighting, which governs facial rendition of the players, and the reflective value and illumination of the background. Sometimes we find them advocating changing the key-light level in order to obtain normal rendition and compensate for differing reflective or illumination values in the background. Sometimes we find them urging that even though the key-lighting remain constant between two scenes with photographically light and dark backgrounds, the timing of the final print must be altered to assure that in both takes the face tones will remain normal.

From my own experience, both of these viewpoints are fallacies. In every instance, we have one key factor for which we are shooting—a normal rendition of the tone and texture of the faces we are photographing. Assuming, of course, that the player's complexion and make-up are such as will give us a normal face to photograph, it is clear that to obtain a normal photographic rendition with a given emulsion and a given normal negative development, *there can be but one correct exposure-value for that face, and but one correct printer-light setting, regardless of whether the background is photographically black or photographically white, and regardless of whether these background tones are secured by inherent coloring or by under or over-illumination.*

As a means of verifying this conclusion, the Editor of this magazine and the writer recently made a series of simple, photographic tests, some of which are reproduced in the accompanying illustrations. Throughout a series of 30 exposures, the lighting on the subject (a wax figure) remained constant, while the coloring of the background was successively changed from black to gray to white, and the illumination thereon was also varied. Different overall exposures were given for each change of background or background lighting, and the negative was printed with three different printer-settings. The results of this test, which may easily be duplicated by any cinematographer, conclusively proved the above contention.

The tests were made on a single roll of ordinary Eastman Plus-X negative film, exposed in an Eastman "Ektra" miniature camera. The negative was developed by the Metro-Goldwyn-Mayer Studio Laboratory, receiving strictly normal development. Three prints were made, using respectively printer lights 23, 24 (the preferred "normal" for that laboratory) and 25.

The wax head which served as a subject was given a strictly normal lighting, with the key-light, as will be observed from the illustrations, coming from a Baby Junior Solarspot at the right, "filler-light" from a single broad at the left, and suitable top and rim-lighting from 500-Watt baby spotlights to the rear and above.

This lighting was balanced to give an *f* 2.8 reading on a Norwood "Director" exposure meter calibrated for the MGM Laboratory's processing. *Throughout the entire series of tests, this lighting remained unchanged.*

All exposures were made at 1/50th second, corresponding to the usual exposure given by studio cine-cameras at the standard 24-frame sound-speed.

In each test, three exposures were given, respectively normal and one-half stop and one stop above normal, that is, *f*·2.8, *f*·2.3 and *f*:2.

In the first exposure-sequence, a completely black background was used, with no illumination falling upon it. This is shown in Figure 1.

(Continued on Page 185)

CAMERA EQUIPMENT FOR PROFESSIONAL 16mm. PRODUCTION

By JAMES A. LARSEN, JR.

PROFESSIONAL production of sound-films in 16mm. may roughly be divided into two classes of film Class A, those which are part or entirely synchronous dialogue, and Class B, those which are entirely silent with an offstage narration recorded after the picture has been shot and edited. The requirements for camera equipment in these two classes of films are quite different and will be discussed separately.

For this type of film in which scenes are shot silent at 24 frames per second and sound is added off-stage, a motor-driven camera is not required or even necessarily desirable. There are several good spring-driven cameras which give sufficient sharpness and steadiness to warrant their use in professional production. They have the added convenience of not requiring any motors, batteries or wires to supply power for operation. They are usually light enough to be operated without a tripod in the hands of an experienced cinematographer, when necessary, and may be used on any of the light-weight "amateur" tripods. Their greatest field of use is in the filming of operations which must be shot "on the fly" without interfering with normal procedures.

Strictly amateur cameras of less than 100-foot capacity, however, are not practical or convenient to use in professional production in 16mm. The magazine-loading cameras have only 50 foot capacity and in addition have the disadvantage of a shifting frame-line as discussed in further detail below, and are not recommended for professional work. The Bell and Howell Series 70 Filmos, Bolex, Eastman Ciné Special and Victor cameras are quite satisfactory for professional production of silent off-stage sound films.

Most important single requisite of a camera for this type of film production is that it have an accurate viewfinder for composing scenes and especially for close-ups. The Bell and Howell Filmo with its "Positive" viewfinder combined with the alignment gauge, and the Ciné-Special with its ground glass "reflex" finder are equipped to minimize this difficulty of accurate viewfinding.

Multiple lens-turrets are convenient, but not a necessity for this type of work. A camera with dissolving shutter like the Ciné-Special and Bolex makes possible the production of fades and dissolves in the camera, which often is simpler and more economical than inserting these effects later in editing and printing.

An accurate footage and frame counter and windback arrangement is desirable for making dissolves, double-exposures, montages, etc., in the camera. In general, camera equipment for Class B film production is less expensive, less versatile and not as precision-built as that required for Sync dialogue or Class A production.

There are certain requirements that should be met by any camera being considered for professional production of synchronous sound films.

First and most important is that the camera be motor-driven by a synchronous 60-cycle motor which will automatically operate the camera at the same speed as the sound recorder and hence will keep the two films in camera and recorder in exact step.

Second; the camera and motor should operate as quietly as possible or be adaptable to a soundproof blimp.

Third; the camera should have removable 400-foot film magazines so that the loading of magazines can be done in a darkroom before the day's shooting starts, and so that the threading of the camera can be done in full illumination.

Fourth, the camera should have an accurate, erect-image viewfinder adjustable for parallax and located as close to the camera-lens optical axis as possible.

Fifth; to avoid a shift of frame-line between scenes made in the same camera on different batches of film of different shrinkage, the camera should have a registration-pin at the camera aperture.

The Eastman Cine Kodak Special, shown here with 200 foot magazine, is probably the most widely used camera for 16mm. professional work.

and should have its pull down claw as close to the picture-aperture as possible.

In using more than one camera to make up the scenes of a single production, or in using magazine-loading cameras or a camera like the Ciné-Special which has removable film chambers, it is very likely that there will be an undesirable shift of frame-line when a cut is made from a scene shot in one magazine or camera to a scene shot in another. In a professional film, this is very annoying and frequently indicates that the producer is not familiar with professional production methods. There are ways in which this difficulty can be eliminated. In the case of the magazine-loading camera however, it is entirely a matter of chance whether two successive magazine loads will have the same frame-line. To the amateur user this doesn't make any great difference, but for professional use, this shift in frame-line is not acceptable and magazine-loading cameras are not recommended for this one reason.

In the case of the Ciné-Special which may have more than one magazine, it is possible to have the frame lines of two or more separate magazines "matched" by sending the magazines to the factory. It is also possible to match the frame-line of several magazines to the frame-line of another camera such as the Bell and Howell Filmo or the Berndt-Maurer, and this must be done if scenes from more than one camera are to be intercut.

Another way to avoid a shift in frame-line is of course to shoot all scenes for a single production on one camera. Even when shooting with one camera or with cameras whose frame-line has been matched, it is still possible to get an undesirable shift in frame-line if film stock from different batches or of different ages is used. The reason for this is that film stock may lose moisture and shrink as it ages. The obvious solution to this problem is to use fresh film for each production or at least to use film of one batch or of the same age. This effect can be minimized if the film containers are sealed as soon as purchased to prevent escape of moisture and the consequent shrinkage with age.

The Berndt-Maurer Sound-Pro camera shown above and on opposite page is the only completely professional 16mm camera commercially available. It has virtually every feature found in 35mm studio cameras, and can also serve as an excellent single system recorder as well.

In addition to the above requirements, which are considered absolutely necessary by professional users of camera equipment, there are a few additional features that increase the versatility and flexibility of a professional camera. Most important of these features is a provision for precise viewfinding and focusing on ground glass directly in line with the lens. Second, is a variable-opening shutter, preferably geared to the camera mechanism for making fades and dissolves in the camera, and for photographing fast-moving objects. Although it is possible by methods which will be described in detail in later articles to introduce fades and dissolves and even wipes in 16mm films after the film has been photographed, it is often more convenient and more economical to put these effects in at the time of shooting.

A third feature is an accurate footage and frame counter which becomes a necessity if much effect-work such as fades, dissolves, double - exposures, montages, etc., are to be made in the camera.

Fourth, a removable aperture plate is a great convenience because it makes possible careful cleaning of the aperture plate and checking of the camera aperture itself for dust particles, lint and other minute particles which might cause a mark on the picture.

Fifth, a wind-back arrangement by which film can be rewound after exposure for a second or third exposure is a necessity if trick effect-work is to be done in the camera.

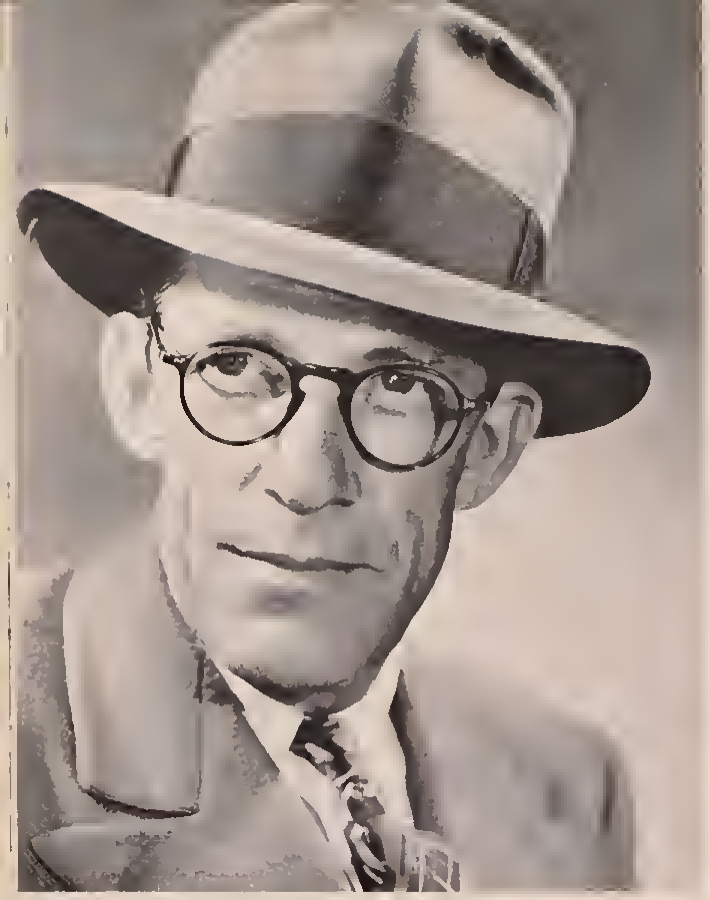
Sixth, a mechanism permitting the exposure of a single frame at a time with a fixed exposure time is very desirable for animation and time-lapse photography.

Seventh, a multiple-lens turret is a convenient feature, although for professional work, shooting usually proceeds sufficiently slowly that a cameraman has ample time to change the lens before other details of preparation are completed.

It might be well to point out one feature that should be used with great care. Some cameras are provided with a means of focusing on ground-glass. In the experience of this author, it is impossible to attain sufficient accuracy by focusing this way. In the first place, it is a very difficult mechanical problem to locate the ground-glass surface in *exactly* the same plane as the film will occupy, and further, the eye is not usually capable of judging just at what point the very small image is sharpest. The customary 35mm studio procedure of measuring the distance from the camera to the subject or to the plane of principal interest and setting the calibrated lens at this figure is more likely to give accurate results in focusing. This procedure is used by all 35mm. professional cinematographers and if the lenses can be checked for accuracy of markings, this method is infalli-

(Continued on Page 184)

The 70D A Filmo can be equipped as shown with 400-foot magazines and a synchronous motor drive for professional use.



Aces of the Camera XVI: Arthur Miller, A.S.C.

By WALTER BLANCHARD

WHEN Arthur Miller, A.S.C., received the Academy Award for the best black-and-white cinematography of 1941, it climaxed a thirty-three year career of outstanding cinematography, dating back to and even before such pioneer epics as "The Perils of Pauline." During those years, hundreds of pictures have flowed from Miller's camera. They've been pictures of all kinds—good ones, bad ones, and indifferent ones—Westerns, comedies, musicals and dramas. But they've all had one thing in common: in so far as conditions allowed, each was representative of the finest cinematography of its day. Some of them, like "The Volga Boatman" and "Forever," were of Academy Award calibre, had there been such an Award in those days; others more recently have been persistent contenders for the "Oscars" for both monochrome and color.

Early in life, Arthur Miller developed two absorbing interests—his love of fine horseflesh, and a love of making pictures photographically. As he was light and agile, his fondness for horses spurred him on to a successful career as a jockey. "But," he says, "I couldn't stop making pictures. Wherever I raced, I always managed to have an improvised darkroom somewhere in the stable. I'd snap pictures of the horses, the trainers, and the other boys. Between races I'd develop 'em and sell them—three prints for fifteen cents. There wasn't any profit in it at that price—but it was enough so I could buy more materials and take more pictures. That was all I cared for."

Then fate stepped in. An injury put a permanent end to his riding days. When he recovered, he learned that his stable rented horses to a group of people who made moving pictures. He saw to it that he soon got the assignment of taking the horses to the studio for their day's work.

"And there," he says, "I fell in love. That big, brass-bound, leather-covered camera that photographed their pictures fascinated me. So did the work I saw the company's cameraman doing. I decided that, sooner or later, I'd be a cameraman, too!

"As soon as I'd gotten well enough acquainted with the troupe to know who was who, I hit the cameraman, Fred Balshofer, who was also a partner in that old Kaybee Company, for a job.

"He said 'yes', (things were like that in those old days!) and I went to work in the laboratory. That was the pathway to a camera job back in 1909, and believe me, it put you through a *real* course in practical photography. Today, if you work in a film-laboratory, your job consists mainly of putting film onto a developing-machine or taking it off, without any particular need for 'knowing why.'

"But in those early days, it was different. You began—at least I did—in the room where they perforated the film, most studios and labs bought their film unperforated, as it was cheaper, and perforated it themselves. Then you went out as an assistant in the negative developing room, helping to wind film onto the developing drums and racks, carrying things around, and making yourself generally useful in a hopeful and unskilled way.

"From there, you usually went for a while into the department where they toned and tinted positive film. After that, you spent quite a while in the chemical mixing room, learning how to mix developers for negative and positive film, learning just what each chemical did, and so on.

"From there, you went into the printing room, and learned about that part of the work. From this, you went into the positive developing department, and began to put some of what you'd learned to work. Finally, you emerged into the negative developing room again as a really skilled laboratory-man. The next step up was to the king-pin job of the whole lab—that of negative timer, where you had the responsibility of deciding just how much development a given negative should be given, and how it should be printed.

"That spot was the parting of the

(Continued on Page 182)

THROUGH the EDITOR'S FINDER

AMERICA hasn't been in the war so very long, but already we have seen a number of the industry's finest cinematographers and special-process specialists volunteering their services to the armed services. Many more have followed suit, and are only waiting for their commissions and orders to come through from Washington. As time goes on, still more of these invaluable men will go, and it is certain, too, that regardless of age, others will be drafted to serve as only they can in the growing photographic sections of the Army, Navy and Marine Corps.

It doesn't take much of a prophet to see that before long the industry is very likely to be rather hard pressed for Directors of Photography capable of keeping its cameras going. In normal times, it is to be expected that these vacancies could be filled by promotions from among the many Operative Cinematographers who are ripe and ready for advancement; but today, since the majority of such Operatives are among the younger men, they, too, will either be volunteering or drafted for military service.

Yet making motion pictures for morale and entertainment is an essential and the industry's cameras must be kept grinding. Where, though, are to be found the men to do it?

As to that, we have a suggestion to offer. Those men are here among us now, ready and oh, so eager for the work. They can be found among the forgotten men of the industry—the older men of the industry, whose skill helped build the cinema to its present stature, but who, perhaps because of age or minor physical disabilities, perhaps because they simply had the misfortune to step on the wrong political toes, have lately been passed up when the contracts were handed round.

Those men are good. We won't say that all of them are as good as ever, though we believe most of them are. We won't say they could safely be entrusted with a "Gone With the Wind" or a "Citizen Kane." But in wartime, we don't make pictures of such magnitude. And these forgotten cameramen—there are many of them any of us could name—are fully capable of photographing the average wartime production.

It may be argued that many of these men have not been active in major studio work for a number of years, and that during that time many changes have taken place. But—these men are none the less highly-skilled artist-technicians, and above all, they are intelligent. They can learn, and adapt themselves.

So—wouldn't it be a good idea to be a bit foresighted for once? Wouldn't it be a good idea for each major studio to put several of these men under contract *now*? We may not need them immediately, but we could take advantage of that fact to give these men the added training they need to familiarize themselves with today's studio ropes, standing by, watching today's aces at work—proving themselves on shorts, tests, second units, added scenes, backgrounds, and the like. Then, as the men who are carrying the burden of today's production go—voluntarily or otherwise—to serve their country, our industry's photographic "home guard" will be trained and ready to step into the breach and keep the cameras rolling until the emergency is past!

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RECENTLY one of the industry's most esteemed directors celebrated a much-publicized anniversary. We join the rest of the industry in saluting an outstanding showman, who has over the span of years contributed greatly to the glamor of the screen. But at the same time, we cannot avoid taking exception to some of the claims he (or his publicists) make as to his responsibility for certain technical advancements. Admitting that we personally were not present at the birth of these innovations, we cannot help feeling that a gentleman who, while not a technician himself, has always seen the wisdom of surrounding himself with the ablest technicians available, must logically be less responsible for such developments than were the artists and technicians who actually executed them.

For example, this gentleman takes credit for introducing to the industry the first unrelieved cross-lighting used in motion pictures. Very probably it occurred in one of his pictures but is it not much more likely that the cinematographer in charge of his cameras had the daring to follow what was at the time a very popular style of still portrait lighting, which the director opportunely named and "sold" to his distributors?

Again, he or his publicists claim for him the invention of the first camera-boom. But unless the gentleman has changed greatly in recent years, he is more likely simply to have said to his associates "I want such-and-such an effect" (possibly in recollection of the moving-camera effects pioneered by Karl Freund, A.S.C., in "Variety" and "The Last Laugh") and left it strictly up to his technical associates to figure out how to get that effect.

More recently, he has stated that he was responsible for the invention of the soundproof camera "blimp," which restored the mobility lost by early talkie cameras. Isn't it strange, therefore, that the records of the U. S. Patent Office show that the basic patent on camera-blimps was issued to a cinematographer—John Arnold, A.S.C.?

Frankly, we don't believe this director was consciously attempting to cheat anyone out of deserved credit, his record of actual achievement is too big for that. But being a noteworthy showman and gifted with an excellent appreciation of the value of publicity, he would be less than human if he declined to accept publicity for innovations that occurred on his production and which the technicians actually responsible considered too much a part of their routine jobs to be worth talking about.

In all this there's a lesson for today's cinematographers and technicians. New ideas in equipment and methods are being evolved constantly. Studio publicists and journalists are bound to notice many of them, and publicize them. And since the reading public is more interested in personalities than in abstract ideas, these innovations are bound to be credited to some individual. If the cinematographer or technician actually responsible gives the inquiring publicist or reporter a quick brush-off on the ground that it's "just part of the job," or that he's too busy to be bothered about yesterday's shots, somebody else is certainly going to have his name publicly linked with that particular innovation, whether he deserves it or not. And that somebody else is usually the director, who has learned that while exaggerated or baseless publicity never "made" anyone, reasonable publicity, backed up by ability and performance, can certainly advance anybody's career. So—the next time the unit publicity-man or a reporter asks you questions, why not meet him half way? He wants to help you—and he can, if you'll let him!

•

We'd like at this time to express our sincere appreciation of the response our readers—amateur and professional alike—have given to the Defense Filming Roll-Call printed in the last two issues of THE AMERICAN CINEMATOGRAPHER. The replies, which have been and still are coming in daily, have been intensely gratifying, not only in number, but as regards the type of equipment mentioned and the calibre and experience of the individuals reporting. Very frankly, we've been surprised to learn how many 16mm professionals read this magazine, and are ready and willing to volunteer their services and equipment to aid the War Effort.

We'd like to remind readers who have not yet sent in their reply, either on the printed coupon or as a letter, that the need still exists and is increasing. We have already received official inquiries from Government Agencies as to the availability of 16mm sound projectors and projectionists for showing films, and also inquiries as to 16mm amateur films photographed in foreign lands, which may be loaned for duping to aid the War Effort. More of the Government's film-using departments will be turning to the 16mm amateur or professional for direct and indirect aid. We want to help them in this, so we urge every reader to provide us with the information requested. It's one way 16mm filmers can help the drive to Victory!

A.S.C. on Parade

Recent—and very welcome—visitors include **Lieutenants Joseph August, A.S.C.,** and **Harold "Winnie" Wenstrom, A.S.C.,** of the U. S. Navy Photographic unit.

•

Picture folks who brag about what they've done with and for Uncle Sam's Armed Services since Pearl Harbor ought to take a look at the record compiled by **Ralph Staub, A.S.C.,** the "Screen Snapshots" producer-director-cameraman. He's been on the job since the first draftee was inducted at Ft. MacArthur in the days of way back when. Since, he's made reels at the San Diego Naval Training Station, the San Diego Marine Base, Stockton Air Force center, March Field, the Cadet Flying School at Hemet, and all important USO, WVC and Defense Bond rallies within miles. Over 700 prints of these reels are now showing in the theatres of this country and the friendly nations. Pretty good record, **Ralph,** we'd say!

•

Congratulations to a new non-resident member of the A.S.C., newsreel ace **James Seeley, A.S.C.** He's with "News of the Day," following a distinguished career of specialization in newsreel and short-subject camerawork. Among other noteworthy film-reportages he's responsible for what is probably the most spectacular single "story" ever put on film—the flaming reportage of the "Hindenburg" disaster. Welcome to the ranks of the A.S.C., **Jim**—and we hope we'll have a chance to get acquainted with you in person soon!

•

Lester White, A.S.C., is not only an 'ace" cameraman, but a member of the "ACES"—the Army Camps Emergency Service. T'other day, with Morgan Conway, he hosted better than a platoon-full of men from camp to a night at the grunt-and-groan bouts. And they do say that when the "ACES" fitted out a medical emergency truck, **Les** donated a whole gallon of *castor oil!*

•

Wilfrid Cline, A.S.C., back prematurely from his James FitzPatrick Technicoloring expedition to Mexico and Central America. It seems after wrecking three sets of tires in a couple of weeks on the southern Mexican roads, **Will** and "Fitz" decided to call off the trip until transportation conditions were better. However, they brought back some swell footage on little-known parts of Mexico. Will, incidentally, came back doing a rave over Mexico and the open-hearted hospitality of Mexico City's cinetechnical community.

•

L. William O'Connell, A.S.C., fresh from drawing critical raves over the major-studio job he did in eight days for the Kozinsky Bros.-Monogram "Klondike Fury," draws a nice assignment. MGM has signed him to direct the photography of a short, "The Cornet Store," and, incidentally, break William ("Genius") Saroyan gently into the business as a director!

•

Can't keep up with that fellow **Eddie Cronjager, A.S.C.** Seems only a couple of weeks ago he announced he was going to free-lance. Since then, he's completed "Friendly Enemies" for Edward Small-United Artists, and now we hear he's back at 20th-Fox to film "The Pied Piper," one of the plums of the year.

•

Karl Freund, A.S.C., sadly considering the tire situation, and wondering if his plan to move from Brentwood to a ranch in the San Fernando Valley—miles farther from the studio—is as clever as he thought it was when he started building.

•

At least two thirds of the members of the A.S.C. know what kind of a car **Harry Wild, A.S.C.,** drives. At the last A.S.C. meeting, just before he took off for Brazil, his snazzy green coupe was parked neatly in the gate of the Society's parking-lot—leaving a space on either side just half an inch narrower than anybody's front fenders!

•

Thought on seeing **Tom Tutwiler,** A.S.C., at the last meeting—which of us has put on the most weight these last few years, **Tom,** or Ye Ed? 'Twasn't so long ago both of us were handsome young juveniles—at least as regards figger! Well, maybe we both married good cooks.

•

Past-Prexy **John Arnold, A.S.C.,** beaming over a new term contract which will keep him skippering MGM's Camera Department for some years to come.

•

Joe Ruttenberg, A.S.C., also had his option picked up by discerning MGM execs.

•

Winding up "It Happened in Flatbush" (originally "Dem Lovely Bums"), **Charles G. Clarke, A.S.C.,** draws the assignment of filming "Through Different Eyes."

•

George Robinson, A.S.C., filming "Destiny," the Richard Dix starrer at Universal.

•

Lucien Ballard, A.S.C., complete with a new contract, filming "Orchestra Wife" for TC-F.

Dan Fapp, A.S.C., assigned to "Priorities of 1942" at Paramount.

•

William Daniels, A.S.C., glamorizing Judy Garland in "Big Time." Or have they changed the title to "Me and My Gal?"

•

Lee Garmes, A.S.C., waving a cheery greeting from his low-slung British Riley sports sedan, the only one of its breed in Hollywood.

•

Joe MacDonald, A.S.C., assigned to "The Postman Didn't Ring," for Twentieth.

•

Ray June, A.S.C., filming "Shadow of a Lady" at MGM. I wonder if it's any relation to "The Thin Man"—or just another glamor-girl on a diet?

•

Karl Freund, A.S.C., goes from one extreme to the other. Finishing Tortilla Flat," he hops right into filming "A Yank at Eton," with M. Rooney mugging between an Eton collar and a top hat.

•

Paul Vogel, A.S.C., putting the photographic punch into MGM's "Sunday Punch."

•

Hal Mohr, A.S.C., back at Universal photographing Irene Dunne in "Sheltered Lady" for Greg LaCava.

•

If there's any delay in deliveries on **Jackson Rose's** "1942 American Cinematographer's Handbook," the reason is that crime doesn't pay. He's busy at MGM lensing "Idle Words," the latest in this popular series.

•

Add coincidences—same day Ye Ed's brother-in-law joined Britain's celebrated Eagle Squadron, **Stanley Cortez, A.S.C.,** signed to lens Walter Wanger's picture of the same name!

•

Victor Milner, A.S.C., away for a four-month vacation now that he's completed his current picture with Preston Sturges at Paramount.

•

Harry Stradling, A.S.C., presides over the cameras filming "Love Me Not" at MGM, with Norma Shearer and Robert Taylor.

•

W. Howard ("Duke") Green, A.S.C., is getting quite the civic figure down in Brazil. In Rio to skipper the Technicolor aspects of Orson Welles' film, he's been called in by the City authorities as a special color-director to supervise the decorations for Rio's great annual carnival, which Welles is going to Technicolor.

•

George Folsey, A.S.C., assigned to MGM's "Grand Central Murder."

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John P. Fulton, A.S.C., and **Milton Krasner, A.S.C.,** have a pair of nice, new Universal contracts to keep them worrying about next year's income tax.

PHOTOGRAPHY OF THE MONTH

KINGS ROW

Warner Bros.-First National Production.
Director of Photography. **James Wong Howe, A.S.C.**
Special Effects: **Robert Burks, A.S.C.**

Photographically as well as dramatically, "Kings Row" is one of the outstanding productions of the season. Any film photographed by the celebrated Chinese cinematographer is likely to be worth looking at—and here, with a strongly dramatic story which lends itself to his style of dramatic camerawork and lighting, and ably seconded by production designer William Cameron Menzies, Jimmie Howe has turned out one of the finest photographic performances of his career.

The picture itself has a setting that is far from glamorous—a small American town near the turn of the century—but it has a story which is all dramatically red meat, and one which covers a remarkably wide range of interlaced dramatic moods. Howe's treatment accentuates realism, yet at the same time employs every artifice of composition and lighting to heighten the emotional mood of plot and action. You're seldom conscious of photography *per se* as the picture unreels, yet afterward it is surprising how many scenes you find yourself re-viewing mentally—not because of action, but because of the indelible mental picture Howe's sensitively-keyed photography has implanted. The crisp, high-keyed cleanliness of Maria Ouspenskaya's household—the atmosphere of foreboding menace Howe gives to even the simplest scenes in Claude Rains' domicile—the soft, cool freshness of the scenes in which Kaaren Verne figures—the visual contrast between the later sequences in Kings Row and the parallel action as the hero studies medicine in the Vienna of yesteryear.

You remember, too, the way Howe's lightings and compositions seem so baffingly simple and so thoroughly natural, yet if you study them, you see how very much they do to build your emotional reaction. "Kings Row" could very well serve as a textbook of cinematic composition.

Howe deals most interestingly with his players. He doesn't strive to glamorize them—not even the much-publicized Ann Sheridan: instead, his camera and lighting treatment heighten their characterizations, especially those of Claude Rains, Charles Coburn and Betty Field. Miss Field, for instance, has certainly been photographed more glamorously, but never, we'd say, to more convincing dramatic effect.

The settings are another factor worthy of high commendation, reflecting the highest credit upon production designer Menzies and art director Carl Jules Weyl.

The special-effects work of Robert Burks, A.S.C., is another praiseworthy feature of the production. With the exception of one or two matte shots which could perhaps have stood some improvement, Burks' work is of such a high order one is scarcely conscious of it—beyond which, no special effects cinematographer can ask greater praise.

All told, we'd recommend "Kings Row" to anyone who wants to see just how much outstanding camerawork can add to a production.

REAP THE WILD WIND

Paramount Production (Technicolor)
Directors of Photography: **Victor Milner, A.S.C., and William V. Skall, A.S.C.**
Special Photographic Effects: **Gordon Jennings, A.S.C., and Farciot Edouart, A.S.C.**
Underwater Cinematography by: **Dewey Wrigley, A.S.C.**

Victor Milner, A.S.C., and his Technicolor partner, William V. Skall, A.S.C., have given "Reap the Wild Wind" a magnificently pictorial Technicolor mounting which makes the production seem a good deal more important than it would otherwise. Special-effects specialists Gordon Jennings, A.S.C., and Farciot Edouart, A.S.C., aided by architect W. L. Pereira, have to an incredible degree brought the rushing sweep of the "wild wind" and waves to the screen, and they, with Dewey Wrigley's remarkable undersea color-camerawork, have achieved for the film a remarkable climax in the underwater battle against a giant squid. Deservedly playing third or fourth fiddle to the phototechnicians, producer director Cecil De Mille has done decidedly better than his wont with the rest of his Thirtieth Anniversary production.

"Reap the Wild Wind" isn't in any sense a "significant" or erudite production, but thanks to Milner's skill, it is one of the most thrilling examples of Technicolored pictorialism ever put on the screen. In scene after scene the combination of composition, lighting and stirring coloring give the impression of colorful paintings. But where the painter can only suggest motion, these scenes provide actual movement in full measure. Yet so skillfully are motion and composition coordinated that the dominant effect is not so much of surging motion as of a painting in which the colors are laid on as with the vivid airbrush of a Maxfield Parrish.

This is especially true of the seafaring sequences. Indeed, on leaving the theatre one's dominant impression of "Reap the Wild Wind" is likely to be the vivid blues and the cool greens of these scenes. Yet throughout the picture, the coloring of each sequence is deftly keyed to match the dramatic value of the action, in much the same manner as was pioneered in "Blood and Sand." You're hardly conscious of this, however; yet what coloration could be more dramatically descriptive of the sequence in which the principal players wait, becalmed and helpless, while John Wayne deliberately wrecks his ship than the dull, foggy grays that were used?

When next year's Academy Awards are passed out, we confidently expect to see Gordon Jennings, A.S.C., and Farciot Edouart, A.S.C., step forward to claim the one for special photographic effects. "Reap the Wild Wind" would be bereft of both its wind and much of its wildness if you removed the innumerable scenes in which these two artists have brought sea and storm into the confines of a studio tank-stage. Their work, with the possible exception of one or two miniatures which could well have been retaken, is a convincing tribute to the skill of the modern special-effects and transparency technicians. The same may be said of the spectacular underwater camerawork of Dewey Wrigley, A.S.C., which not only gives the picture its dramatic punch, but provides some unforgettable pictorial highlights, as well.

RIO RITA

Metro-Goldwyn-Mayer Production
Director of Photography: **George J. Folsey, A.S.C.**

One would hardly expect an Abbott and Costello comedy to be an example of fine photography, but that is exactly what George Folsey, A.S.C., has made of "Rio Rita." There's comparatively little left of the original musical comedy, but Folsey's skill makes the 1942 version if anything a more memorable pictorial achievement than the more straightforwardly spectacular two-color Technicolor version of a decade ago.

Wherever possible, Folsey's flair for decorative set-lighting makes the film of genuine pictorial interest. His treatment of the players is also exceptionally pleasing.

In the sequence where the two romantic leads meet again, and sing "Long Before You Came Along," you see an unusual demonstration of the skill of modern cinematographic lighting. The long-shots of this sequence were made actually outdoors, on the desert. The closer shots were made indoors, on the stage. Yet they intercut so perfectly that unless one is consciously looking for such details, this fact is likely to slip by unnoticed. Let it be said here, too, that these bona fide exteriors by Folsey or some uncredited second-unit cinematographer are uncommonly fine, too.

THE MALE ANIMAL

Warner Bros.-First National Production.
Director of Photography: **Arthur Edeson, A.S.C.**
Special Effects by: **Willard Van Enger, A.S.C.**

"The Male Animal," though diverting

(Continued on Page 172)

Diary of a Defense Film

By LA NELLE FOSHOLDT

Long Beach Cinema Club

INCENDIARY Bombs? Make a picture about them? Why that ought to be easy!

Yes! That's what we thought but we found out it wasn't so easy. Following December 7th, our Club wanted to do their bit for National Defense, so we mailed letters to Heads of different Defense groups offering our services.

They suggested an Incendiary Bomb picture should be made and that a scenario would be prepared and sent down to us.

Weeks passed, and no scenario came. There was a lot of red tape holding up the scenario, although it was no fault of the Defense Officials who were so anxious for us to start.

We felt valuable time was being wasted. Why not write a story ourselves? We had the Chief of the Fire Prevention Bureau as a member. He could help us.

We selected our own Defense Committee and made our very ambitious junior past-president, Midge Caldwell, chairman. Then things began to happen. She appeared before the Civilian Defense Council and various other organizations to be sure everything going into the picture was absolutely authentic. Scenario meetings were held three times a week and under the guiding hand of our Fire Prevention Chief, Claud Evans, a story began to take shape.

I never knew so many points in a story could be argued over so much! Our one scenario member who generally took a nap, forgot to take it. An hour of pros and cons and then a paragraph would finally be typed. I began to wonder if we could *ever* make the picture and still all be friends.

At the end of two weeks the scenario-minded members were still talking heatedly, but decisions were being made. One of the first was to make it from a woman's angle. We felt we should show the average housewife combatting a magnesium bomb instead of one or two men. The feminine part of an audience would think, "if she can do it, I can," where if we showed a man combatting it, a woman who might be alone would not even attempt it. As far as the man's angle was concerned, we knew all men enjoy watching a pretty girl and would think, "if a girl can do it, I can!"

All of our story was to take place during the daytime because most housewives are alone during the day and if a raid should happen then, the work would fall on their shoulders.

We felt the majority of people would understand the picture better if we presented all the wrong ways first and all the right ways last instead of mixing the two. We studied pictures on different subjects where right and wrong ways followed each other and found we had to run them several times in order to understand them clearly.

Finally our story-outline was finished and we felt like guarding it with our lives after the time we had spent on it. In our hurry to get our picture into production we selected a group of 12 members to take two or three duties apiece and carry the majority of work on their shoulders. This was done because we could not take a large number of members into the important places where we would be shooting. We found out how cooperative public officials can be when you're doing something for your country and so we tried to be considerate of them.

Locations began to present themselves as a big problem. We wanted a house to burn down. We compromised on a room that could be set afire. Chief Evans was just the one to take charge of it. We had to have at least a dozen magnesium bombs. He could do that too. In fact we began to thank our lucky stars we had him in the Club!

In the next few days, our chairman, Midge, Chief Evans and Ray Fosholdt, turned property men, location crew and finance committee. A lot happened, and the next Sunday was set for our first

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Above: Midge Caldwell, Chief Cameraman Clarence Aldrich and Director Ray Fosholdt make a dolly shot for the beauty parlor sequence. Middle: Three of the Club's cameras prepare for an angle-shot on the "roof-top" set, while leading lady Mary Ann Purdy waits to chop her way into the picture. Bottom: The Long Beach Cinema Club at work making the beauty shop sequence. Note overhead scaffold for lights.

On opposite page left, Mary Ann sprays the burning curtains preparatory to attacking the burning incendiary bomb with sand and shovel Center Defense filmers on the set left to right, Script clerk La Nelle Fesholdt Director Ray Fesholdt Chairmen Midge Caldwell (kneeling) Technical Director Fire chief Claud Evans Cameraman Val Pope leading lady Mary Ann Purdy, and Earl Everley On this page left, Mary Ann fights the fire in approved style right, she prepares to chop through the roof top set Photos by Julian Hieff Jack Nicholsen C W Lothrop and Earl Everley

Scenario Of America's First Amateur-Made Civil Defense Film

THE AMERICAN CINEMATOGRAPHER is honored to be able to publish here the scenario of America's first amateur-made Civil Defense Film. Camerawork on this production has just been completed by the Long Beach Cinema Club. Editing and recording will be finished about the time this appears; though some modifications are possible in final cutting and details of the narration, the presentation and technical details are authentic and approved by Defense Officials.—THE EDITOR

TITLE

INCENDIARY BOMBS Superimpose titles over women's faces looking up with puzzled looks on their faces, asking—

Sound Fast and overlapping (Mixed voices) "How big are they? What do they look like? Do they explode? How do we put them out? Shall we use sand? Shall we use water? Won't someone tell us. What will we do?

Slow fade of sound and picture

Scene 1 Close-up Fade in Picture of bomb in "Life" Magazine. Dissolve to

Scene 2. Int Beauty Parlor, medium long-shot (Day). Include four women, two under drier, one manicurist and one having nails manicured

Scene 3: Close-up of Mrs Kay who is holding magazine as she says—"Have you heard anything about these magnesium bombs?"

Scene 4: Close-up of Mrs Em saying. "Oh you hear so many things you don't know what to believe!"

Scene 5 Medium Close-up of Mrs Ann saying. "Well, I wish someone would tell us the real truth."

Scene 6: Medium long-shot through beauty parlor window of Fire Chief driving to curb in official car Fire prevention sign on door Dolly in to

Scene 7 Medium-shot of Fire Official getting out of car.

Scene 8: Medium-shot of Fire Official walking to front of shop. He looks at pad in hand, then to number over door Enters shop

Scene 9 Medium-long overhead shot of inside beauty shop, showing women in background and Fire Official entering in foreground Fire Official walks to desk

Scene 10 Two shot as Fire Official comes up to desk and asks attendant for manager

Attendant leaves scene

Scene 11 Medium-shot of Gossiping women.

Sound Women talking

Scene 12: Close-up of Mrs Kay saying

Sound "I hear they're so big they'll smash your house all to pieces."

Scene 13. Close-up of Manicurist saying "I hear they're just little things but they'll burn your house down before you can do anything about it"

Scene 14 Medium Close-up of Fire Official as he overhears women and glances their way He shakes his head in disgust at their conversation

Scene 15. Close-up of Mrs Em saying.

Sound- "I keep a dishpan of water in the sink all the time I'd sure put one out in a hurry'"

Scene 16. Medium Long-shot of Fire Official walking over to women

Scene 17: Close-up of Fire Official saying.

Sound "Ladies, I couldn't help overhearing your conversation I'm afraid you have been badly misinformed I heard one of you mention the tremendous size of these bombs The magnesium bomb in common use today is—

Scene 18 Medium Close-up of Fire Official holding cross section of bomb showing construction as sound continues,

"—14 inches in length and 2 inches in diameter They weigh a little over 2 lbs. In the nose of the bomb is a cap which ignites when striking an object, setting fire to thermit in the center of bomb The thermit in turn ignites the outer shell of the bomb which is made of magnesium They will burn for approximately 15 to 20 minutes if left alone."

Scene 19: Close-up of Fire Official saying;

Sound "These bombs can be controlled —but not by throwing a pan of water on them."

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Above, production scene at the Fire Department alarm switchboard below, filming the big fire scene, the cameraman who lensed an angle shot from the rafters proved a real smoke eater Note construction of set and provision for overhead lighting

Autoload camara operated by Porter's remote control gadget, in cockpit of plane just before filming fatal crash.

Amateur Movie Gadget Contributes To War Effort!

By WILTON SCOTT

A SIMPLE little gadget, home-built to increase a cine-amateur's movie-making pleasure, has done its bit to strengthen America's wartime wings! Because it enabled a 16mm. camera to record every significant detail of the crash of an experimental plane, better, stronger planes are now going out to the Air Force of the United Nations to make every one of us safer and more certain of Victory.

The story really begins more than a year ago, when Dudley E Porter, an inventive-minded California cinefilmer, decided to build a remote-control device for his cine-camera. He wanted a gadget which would smoothly start and stop any type of cine-camera not once, but repeatedly, so that he could expose the full footage permitted by a single camera-winding either as a single scene or as several Since no accessory of the kind was available commercially, he designed and built his own

Porter's remote-control was described in THE AMERICAN CINEMATOGRAPHER a year ago, in the March, 1941, issue. Inside its drum-shaped housing was a clockwork spring which, working through a beautifully-built escapement, actuated cams which in turn, moved a little rod attached to the camera's shutter-release up or down as might be necessary. Each time the remote-control was tripped, the rod made half a stroke, so that it would turn the camera on, and keep it running until tripping the controller again made it turn the camera off. Tripping was done by a solenoid, electrically operated through a push-button which could be at any distance from the camera

A few months ago one of Porter's friends, an engineer for one of America's major aircraft plants, learned of the gadget and saw in it an ideal means of operating a 16mm. cine-camera for making a photographic record of the readings of airplane instruments during test flights.

He borrowed Porter's controller forthwith, and attached it to a standard Bell & Howell "Autoload" Filmo 16mm. magazine camera. The camera, fitted with a wide angle lens was mounted in the test plane, just behind and over the shoulder of the pilot, in a position where its lens could photograph the whole of the plane's complicated instrument-panel The control button was carried into the forward cockpit, and placed where it could be conveniently operated by the test-pilot.

Throughout the many preliminary tests, camera and remote-controller operated perfectly, bringing back for the study of the engineers an accurate record of all the instrument-readings in each test.

Finally came the climaxing test—a torturing power dive to terminal velocity Up into the blue droned the plane—two, three, four miles and more above the earth, until it was invisible to the watchers on the ground. Then down she came—straight down, the engine screaming a frightening song of unleashed power. Accelerating earthward, faster and yet faster, until it reached a maximum speed beyond which neither the straining engine nor the fateful pull of gravity could urge her faster!

The pilot began to pull out from his dive.

Then—something went wrong! A wing wavered—snapped—broke away. And the plane, its wind-resistance lessened, rushed even faster to earth The anxious watchers below could see the doomed plane all to clearly now—and no blossoming cloud of white silk answered their prayers that the pilot might bail out.

Plane and pilot crashed and were crushed and burned to indistinguishable fragments, leaving behind them the burning question "What happened up there? Why and how did that plane crash?"

The camera couldn't tell: it was demolished, and Porter's control with it

But what of the film?

They found that, at last, undamaged At the moment of the crash, the film-magazine had been catapulted forward, almost intact. Hurled bodily out of the camera, it was embedded in the pilot's body, which had protected the precious strip of celluloid from the fire which

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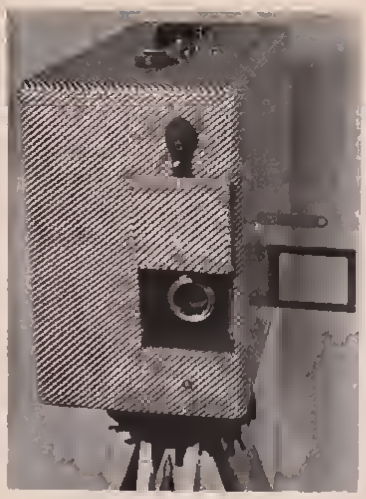

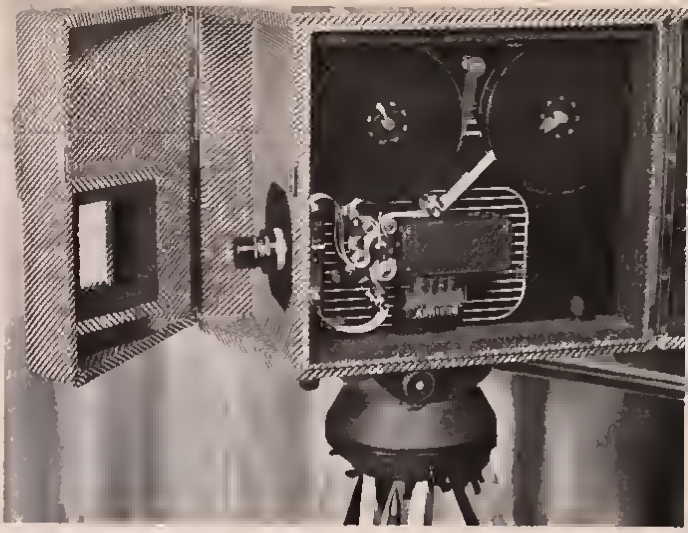

Left, front view of Auricon camera. Right, camera opened to show 200 feet daylight loading reels and course of film past picture and sound apertures. Note how front opening serves as a deep sunshade.

Auricon Sound Camera Makes Bow

By WILLIAM STULL, A.S.C.

MAKING its bow at precisely the time when it is most needed by the makers of 16mm. defense and training films, the Auricon 16mm. sound-camera has just been introduced by the E. M. Berndt Corporation of Hollywood to serve as a companion to the firm's successful Auricon 16mm. recorder. Powered by a 110-volt synchronous motor and making use of the same amplifier as the Auricon recorder, the new camera may be used alone for single-system synchronized sound and picture recording or interlocked with the Auricon recorder as a double-system unit. It should prove an ideal equipment for field use by professional and governmental film units where portability, simplicity and ruggedness are essentials.

In design and construction, the new camera is completely in keeping with today's necessity for conserving critical materials. The parts essential for perfect mechanical functioning of the camera are precision-built of the finest tool-steel; parts not so essential—such as the case—are built of non-critical materials. In many components, this necessity has been turned to definite advantage. The camera's case, for example, instead of making use of the cast or stamped metal to which we have become accustomed during the years of plenty, is of wooden construction; and this has been found doubly advantageous as this type of construction not only seems to have better soundproofing qualities than metal, but has also made possible a design in which the camera serves as its own carrying-case. The same is true of various other components, in which the elimination of critical materials or assemblies has produced unexpected practical advantages.

As may be seen from the illustrations, the camera is of box form. The case is of wooden construction, leather- or fabric-covered, and lined inside with foam-rubber sound-insulating material. The case therefore serves as a very efficient sound-absorbing "blimp." So efficient is this that we would say that in the average medium or long-shot, or in close-ups where the professional practice of using a slightly longer-focus lens is followed, no additional soundproofing should be needed. In extreme instances, a single, quilted "barney" should render the camera completely noiseless.

The entire operating mechanism is mounted on a heavy steel frame-plate inside the case, suspended on special vibration-damping mountings. The film-moving mechanism is of course of tool-steel, with precision-cut gears and sprockets.

And right here let it be said that the Auricon camera, as a camera, is uncommonly well-designed. Regardless of the excellence of its sound-recording component, no sound-camera can be better than the picture it puts on the screen. Tests we have seen of this camera's performance indicate that even without the sound-recording feature, the camera's picture-making performance would be exceptional. The film appears to run flatly through its aperture, giving a perfect optical image, and the steadiness of registration can be compared only to professional, pilot-pin designs. It produces a picture definitely steadier than do most of the cameras used for 16mm. professional work.

The movement is an excellent piece of design. The film-moving claw moves straight into the film, and straight down, then in disengaging moves straight out of the perforation, disengaging itself completely from the film before starting its upward travel. This, in combination with suitable edge-guiding and an excellent, though lightly tensioned pressure-plate, gives registration which is only surpassed by the best pilot-pin designs. The pressure-plate, incidentally, is easily removable, so that the aperture may be inspected and cleaned much more easily than is possible in most designs.

This intermittent is also self-framing. In the event that the film is simply placed in the aperture, and not immediately engaged with the film-moving claw, the camera, on starting, will not damage the film, but the claw will automatically engage itself in the perforations, assuring perfect framing and trouble-free performance.

Recording is done at the main driving-sprocket. In theory, this appears unconventional, to say the least; but in practice, as proved by the successful use of Auricon recorders over a period of years, it simplifies matters greatly. The sprocket is fitted with precision-cut teeth, and governed by a fairly heavy flywheel. The film is pressed into unusually good contact with the circumference of the sprocket by means of a spring-tension roller of Spanish felt. A carefully-planned differential is maintained between the speed with which the film enters the sprocket, the speed of the sprocket itself, and that of the take-up, with the result that the film's movement over the sprocket appears to be unusually free from irregularities.

A particularly ingenious drive is employed. Synchronous motors of the comparatively larger and slower-running sizes such as might ordinarily be employed for a unit of this type are not easily available of late, and moreover do not have the most desirable smooth-run-

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Filters -- or Correct Exposure?

By ART LLOYD, A.S.C.

GOOD cinematography consists not only in knowing what to do with your camera and accessories, but —and perhaps more importantly — in knowing what *not* to do. Take the matter of filters, for instance. We all know that filters, correctly used, can do remarkable things for a picture, turning day into night, making clouds stand out, and clearing up the distance of extreme landscape long-shots, and so on.

And that's just where many amateurs (and sometimes more than a few professionals) go badly wrong. They know that filters can do a lot—and so they try to use filters in scenes where they really aren't necessarily helpful at all.

The two illustrations on this page illustrate a very common example of this. Anyone who has ever screened many amateur movies has certainly seen plenty of long-shots like the upper picture—a fairly attractive composition, but with the distant part of the landscape so "washed out" that it's only a glary white nothingness on the screen.

And if he's either a professional or one of the more experienced amateurs, he's had the makers of such shots say to him, "What filter should I use to get a shot like the lower picture?"

The answer doesn't lie in filtering at all. It's a matter of correct exposure only. Believe it or not, the only difference between the two pictures is that of exposure! The upper one is badly overexposed; the lower one is correctly exposed—and the difference is fully as great as you could get with any filtering.

At about this point, I seem to hear someone saying, "That can't be the only difference. I expose my long-shots according to the meter's reading—but I don't get anything like that lower picture!"

You probably do—but how do you take your reading? Do you take it by simply standing beside the camera, pointing the meter at the scene, noting the brightness-reading, matching the arrow on the calculator dial to that brightness, and reading off your exposure? I thought so! That's exactly the way that upper picture was made!

You see, you overlooked two facts. First, in an extreme landscape long-shot like that your lens and meter are taking in a tremendous amount of light reflected from a large and very bright area. Second, that dark foreground is likely to produce a rather prominent dark pattern in your meter's eye, and give it a reading that's definitely too low to give the correct exposure-value for the scene as a whole.

Luckily, the meter-designers have taken this into consideration, even though too few of us follow the lead they've given us. Take a look at your meter's dial. You'll notice there are several markings on it aside from that arrow you generally use in taking your readings. One of them, slightly to the left of the arrow, is marked "A" or "½." If, in taking your reading on extreme long-shots like this, you'll bring that "A" point *instead of the arrow* to the brightness-value your meter's indicator has given you, you'll give your picture just half the normal exposure. For example, with a brightness-value of 200 and a film-speed of Weston 16, which is a pretty fair average for exterior work, taking a reading in the normal way will give an exposure-reading of *f*.11 at the usual cine-camera exposure of 1/30th second. But if you take the reading using that "A" marking, your reading will be *f*.16—which is the correct exposure for an extreme long-shot under such circumstances.

Try it—and see how your exposure-errors in landscape shots vanish! END

Shooting For Conservation

By ORMAL I. SPRUNGMAN

CONSERVATION is uppermost in the minds of Americans today. We talk of conserving men and materials and eliminating waste. But long before the era of blitz-mad dictators, there were thousands who were preaching another sort of conservation. Conservation of wildlife.

There were far-sighted folks who felt that if future generations were to enjoy the privilege of popping ducks, deer or free-wheeling cotton-tails, something would have to be done by those who lived in the present. Some believed that declaring a moratorium on hunting alone would bring back waterfowl millions, but they ignored the fact that enemies apart from man were decimating their numbers.

During the past two summers I have had the privilege of traveling throughout Canada's breeding grounds to help shoot movies and stills for Ducks Unlimited, internationally known non-profit organization of waterfowl conservationists. I have knocked about in dry alkali lake beds, waded and paddled duck-infested marshes, and taken movies from low-flying planes on the aerial duck census of the Northlands.

This work has hammered home to me not only the importance of sound-minded conservation, but the effectiveness of amateur movies as a medium for carrying this message to fellow sportsmen. In fact, a movie camera in the hands of every angler or hunter could become a potent force in eliminating game hoggisbness and producing real sportsmen instead of meat hunters.

You may not realize this at first, but the manner in which you perhaps unconsciously do your filming has a definite influence on your audience. If you show only the lusty kills and the endless strings of game or fish, you give the impression that big bags make the sport and the sportsman. But if you cut in occasional glimpses of beautiful scenics along the way, novel sequences of camp life, made intimately real with humorous personal action, you emphasize the fact that the taking of game is only secondary and that love of the outdoors is uppermost always.

A fishing film that shows a pair of anglers fetching whoppers hand over fist isn't half as acceptable as a similar movie of the pursuit, actual battle and landing of a single beauty, climaxed by the preparation of fish as part of an outdoor meal—all told by means of close-ups.

What, then, makes good fodder for movie-making sportsmen?

If you belong to a club of fellow conservationists, try a cine record of the group's efforts at winter feeding of birds or the restocking of fishless streams. Lean heavily on the educational side, and aim your film at young audiences, for these make up the sportsmen of tomorrow. Preach conservation through picture rather than title.

Filming game on the hoof or birds on the wing calls for rapid exposure adjustments, a telephoto lens, and a steady shooting arm. Tripods are quite bunglesome at times, particularly when swinging to follow birds in flight. For this reason, Ducks Unlimited field men prefer a gunstock mount, fashioned from a pine block or, better yet a discarded rifle-stock, to permit rapid-fire movie-making from the shoulder.

Although there may be occasions when a longer lens is desirable, the 3 or 4-inch telephoto seems to be ideal for duck filming. By shooting at 24 or 32 frames per second, instead of the usual 16, a smoother sensation of flight is obtained. Slow motion at 64 frames per second is a film-eater-upper, and is used only in rare instances. Geese, since their wing is slower, may be filmed at 16-frame speed.

Now, where does one get the ideas for a conservation movie?

When Ducks Unlimited found that 70 per cent of the duck crop was destroyed on the breeding grounds before it even reached the hunter, the 1940 movie was designed to show graphically and pictorially exactly what happened to those unfortunate seven out of every ten ducks.

On the prairie provinces, drought was not difficult to picture in midsummer. Cracked ground and dusty lake beds were plentiful. Ponds filled with spring runoff had invited ducks to nest. Now that the youngsters were ready to waddle, lakes and sloughs were dry, and it was not unusual to find and photograph young broods heading cross-country over cactus patches looking for water. Then corpses rimmed lakes that had disappeared. Ducklings must have water or they cannot survive.

Fires caused by smouldering peat, lightning, careless campers or the improper burning of farmlands bring death to millions of potential ducks each year. Now and then you find the scorched bodies of mother ducks in charred marshes—hens which would not desert their nests but preferred to cook with their eggs. Such movie close-ups, filmed through rising smoke threads, are strikingly impressive.

Torrential rains often bring floods which wipe out nesting ducks. Occas-

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Short-Cuts For Defense Filmers

By PHIL TANNURA, A.S.C.

MAKING a Civil Defense picture in 16mm is a job of very nearly professional importance. There are plenty of little phototechnical details which are likely to trip you up if you don't approach the job with professionally-minded foresight. Luckily, too, there are a number of little professional short-cuts which can save you trouble and expense, and sometimes go a long way toward saving your cinematic bacon, as well.

Probably the first thing to think of as you approach an assignment of this nature is the question of cameras. If the filming is to be done by a group or club, you'll almost certainly be planning to use several cameras, at least for the filming of your picture's "big" scenes, so that you can get a variety of angles at a single take.

Of course they're all "good" cameras, complete with fast lenses and a plutocratic price-tag. But—will the scenes they shoot match up as to definition and frame-line on the screen?

Never thought of that, did you? Well, that little detail nearly wrecked Cecil De Mille's first professional picture, thirty years ago. Different parts of the picture were shot with two different cameras which didn't "frame" uniformly. The same thing can happen in today's 16mm, for two cameras—sometimes even of the same make and model—may not frame identically. The ounce of prevention in this case is to make tests beforehand, and pick only cameras which have identical frame lines.

It's a good idea to test your lenses beforehand, too. Some lenses tend to give a crisp, wiry-sharp picture, while others produce a decidedly soft image. The softness may not be objectionable in itself, but when scenes made by the soft lens are closely intercut with shots from the sharp lens, the difference can become really disturbing. Better play safe and assemble a test-reel of scenes made by each of the lenses you expect to use, under conditions comparable to those you'll be facing when your production starts. That way, you can weed out the goats from the sheep!

Then, too, your script may call for a dolly-shot, even though you haven't a dolly with which to make it. Professional writers aren't the only ones who have the habit of writing in anything they please, and leaving it up to the production-crew to figure out how to get it!

If you have the time and money, you can build up a really professional dolly quite easily by going to the nearest auto-wrecking yard and investing in a pair of "Model T" front axles and wheels. Underneath these axles, bolt a wooden platform large enough to hold your tripod and camera crew, and provide at one end a suitable handle for pushing and steering the dolly. The earliest professional dollies were made that way, and worked very well indeed. For the smoothest results, you'd better plan on a track, too. Make this from two layers of 1x4" boards, with the ends cut diagonally and overlapped, so the dolly will roll across the joints smoothly. For safety's sake, better add an upright plank to serve as a guide-rail on the outside of each track, too.

But if you can't do this, there are several ways you can improvise a dolly. If you live in a large city, you may be able to borrow one of the low, four-wheeled carts used to move materials around industrial plants. They'll do quite well. Clyde De Vinna, A.S.C., when he was faced with this problem on location in Dutch Guiana, solved it by getting a three wheeled delivery bicycle and replacing the box that went between the two front wheels with a low wooden platform. Another time, Charles G. Clarke, A.S.C., improvised a dolly by simply getting a child's coaster-wagon and squatting in it, Evemo in hand, while his assistants pushed!

Another problem you're very likely to face is that of finding yourself working in a room with a highly-polished floor, on which tripod-legs slip almost as badly as on ice. The professional has a little gadget that takes care of this in a hurry. He simply takes three little pieces of flat plywood, perhaps two or three inches square, and connects them by lengths of rope or chain about two or three feet long, running from a sturdy metal ring. Spread the three pieces of plywood out on the floor—one at the point each of your tripod-legs will stand—and dig the metal-shod points of the tripod-legs into the plywood blocks. This will give your tripod a good, firm foundation, which can't slip, as each block pulls through its chain against the other two. You can do the same thing by fastening the three chains—without blocks—to the tripod-legs, but using the blocks is better because it not only protects the floor underneath, but gives your tripod a solid anchorage on cement and brick paving where even a sharp-pointed tripod-leg might slip otherwise. Often, professionals will make a little hemispherical depression in the upper faces of the blocks to give the tripod-points an extra-good seat.

If your picture includes many interiors, it's a very good idea to wire your lamps through a high-low switch. These can be obtained commercially, but no home electrician should have trouble rigging one which permits you to burn a string of Photofloods either in parallel (the usual way) or in series. Burned in series, the lamps operate at considerably reduced brilliance, which greatly extends their useful life. Use them in series while lining up your shot, then throw the switch to parallel for full brilliance during actual shooting.

Incidentally, when filming interiors—particularly in Kodachrome—it's a good idea wherever possible to over-light your scenes, so you can stop down your lens moderately, say to *f* 3 or *f* 3.5 at least, to gain added depth and definition.

When actual shooting on your picture is through, by all means have a black-and-white reversal duplicate made to use as a work-print. Remember, your original—whether Kodachrome or reversal black-and-white—is for all practical purposes the master negative from which all future copies of your completed film will be made, and no matter how carefully you may try to handle it in editing, you can't help marring it with some scratches and dirt. Let your work print take this rough usage, and then cut your original to match it.

Incidentally, you'll do well to do the splicing on your original with a Griswold splicer, which is the only moderate-priced 16mm splicer which can be adjusted to make a negative splice. This type of splice is narrowest, and is therefore the least noticeable in the completed duplicate print.

Your picture will in all probability be released in sound, at least in the form of a narrative sound-track. Most 16mm sound-on-film recording studios make their charges on a basis of time, and rehearsing your narrator at the recording studio can prove very expensive, indeed. You can do quite as well at home, projecting your work-print on a sound-projector at 24 frame speed, and rehearsing until the narration fits the picture perfectly. Then, if you have a disc recorder available, record it on disc and play it back in synchronism with the picture, to check and double-check the effect.

If you should happen to have a recorder which can be synchronized with the projector, as in the Synchro-Sound system, you can even go a step farther, and record your disc in absolute sync with the picture. Then, in transferring the sound to the film, all you need to do is re-record from disc to film. This can eliminate a lot of trouble and some expense, as well. END

AMONG THE MOVIE CLUBS

Club Cooperation

Two months ago, following the lead of the progressive 8-16 Movie Club of Philadelphia, we suggested some of the benefits that could come from a more active cooperation between the nation's amateur movie clubs. Club activities and conditions being what they are, reactions to the idea are coming in slowly—but they're coming in, and favorably.

Chief interest centers at present on the possibilities of inter-club exchange of films and programs. Philadelphia's 8-16's, Syracuse's Movie Makers Association, the Long Beach Cinema Club, and others, all have films they'll gladly loan to other clubs for exchange showings.

To start the ball rolling, we urge all clubs who have either club productions or films whose individual makers would be willing to have shown to other clubs, to send their films to the Editor of THE AMERICAN CINEMATOGRAPHER for review and listing. We'll publish a brief review of such films, together with the necessary information as to running-time and from whom they are available. When we know enough films are available to make it worthwhile, we'll send out to all clubs on our mailing-list a catalogue of these films, including the reviews. Philadelphia 8-16's Frank Heminger volunteers his services, and that of his Club's attractive bulletin, "Closeups," in getting the project under way.

We'd like to hear from the officials and program chairmen of other clubs as to their reactions to the plan. Frankly, we think it's a swell idea—and one of infinite benefit in these wartime days of restricted filming—but the real decision rests with you. HOW ABOUT IT?—The Editor

OLD AND NEW IN UTAH—Outgoing and incoming officers of the Utah Amateur Movie Club. Left to right: Joseph G. Jeppson, 1941 President; Wendell Taylor, 1942 Vice President; Katherine Rauch, 1941 Vice President; LaGrande W. Anderson, 1941 Treasurer; Ted Guerts, 1942 President; John Huefner, 1942 Secretary, and Theo M. Merrill, 1942 Treasurer. President Guerts was winner of the "A" (16mm.) division of the Club's Contest, and Treasurer Merrill in the "B" (8mm.) division.

Election, Banquet, Contest for Utah

The Sixth Annual Banquet of the Utah Amateur Movie Club (Salt Lake City) was an outstanding event. The attendance numbered 180 members, guests and friends. The new officers, elected at the February meeting, were installed. They included Ted Guerts, President; Wendell Taylor, Vice-President; John Huefner, Secretary, and Theo M. Merrill, Treasurer.

The program for the meeting was cleverly printed in a circular folder on the cover of which was imprinted in silver the design of a 16mm. reel. The big feature of the evening was of course the announcement of the results of the Club's Annual Contest. Winners of the Award Cups were: "A" (16mm.) Division, new-president Ted Guerts with his film "Snap-Happy," "B" (8mm.) Division, Ted Merrill with his film "Snow-white and Rose-Red;" and in the Musical Division, Al Morton with his film "Utah Trails." The "B" Division was judged by the Editor of THE AMERICAN CINEMATOGRAPHER, who provided a score-sheet to show upon what basis he made his decisions, and an individual, written review for each picture in the division. This was particularly appreciated by the contestants, who felt that no matter where they placed in the Contest, they still received helpful comments about their films.

JOHN HUEFNER, Secretary

Shelter Shows

In England, "Shelter Shows" of 16mm. movies are being held in air-raid shelters beneath railway arches, and in basements under city stores. Both professional and amateur films are being used. Among the latter are contributions from the Australian Amateur Cine Society—"Then He Woke Up" and "Coast Town"—are already in use, and two others—the prize-winning "Nation Builders" (still one of the best, if not the best amateur film ever made) and "The City of Sydney"—are en route from Australia to England.

Education for Minneapolis

March meeting of the Minneapolis Cine Club was scheduled to be educational in nature. Carroll Davidson was scheduled for a demonstration on the amenities of (good) home projection. Mort Smith screened "Death in the Afternoon," with a resume of its technique. Carroll Michener's film, "Sanctuary," centering on the dedication of his church as a cathedral, was due for its Club premiere.

ROME A. RIEBETH

Long Beach Busy

The Long Beach Cinema Club will inaugurate their Defense Stamp and Bond Drive with a breakfast at the Hilton Hotel, Saturday morning, April 4th and again on April 11th, on which evening a dance will be held at the Municipal Auditorium.

On April 12th a Bathing Beauty Contest, sponsored by the Long Beach Junior Chamber of Commerce and the City of Long Beach Amusement Committee, will be held near the bath house on the beach. This parade will be filmed by club members who will compete for prizes.

Mildred Caldwell, Claude L. Evans and Clarence Aldrich demonstrated their titlers at a recent meeting, showing their finished work on the screen, which was most effective.

Clay Lindemuth presented his film "Sun Valley Rodeo," also pictures of Yosemite. Schoolteachers Alma Worley and Dorothy Dingley are photographing interesting pictures of the gasoline trucking industry which was the subject chosen by students under their training.

The club members are uniformly behind the early completion of their current film on defense measures which are principally the methods of combating incendiary bombs. Shooting on the film

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Home Movie Previews

PIONEER TRAILS

Semi scenario documentary, 175 feet 8mm Kodachrome,

Filmed by **John Huefner.**

This is one of the finest and most ingenious films of its type we've screened. The photography is uncommonly fine; the compositions, and the cleverness employed in effecting some of them, as fine as anything we've seen in 8mm since the great days of Randolph Clardy and Tatsuichi Okamoto. The titling is extremely fine, both as to wording and to phototechnical handling.

Our criticisms must necessarily be few and minor. For example, the trick of suggesting a shot made from within a pioneer's covered wagon, by placing in front of the lens a canvas-covered hoop, is clever, but it is perhaps a bit overdone. Incidentally, for the most convincing effect, this foreground-piece should be shaded, since obviously the interior of a covered wagon would not be sunlit. The first shot of Emigration Canyon should be eliminated or retaken, to eliminate the intrusive touch of modernity created by the telephone-pole at the left of the frame. And there are a few shots of the wagon which could well be eliminated in the interests of preserving the continuity of motion which suggests that the pioneers are traveling consistently from one place to another. It is rather confusing to see the wagon traveling (as it does in most shots) from left to right, and then suddenly see it for a shot or two cross the screen from right to left; it gives a suggestion that maybe the pioneers have turned back.

SNOW WHITE AND ROSE RED

Scenario Film, 225 feet 8mm Kodachrome.

Filmed by **Ted Merrill.**

There is very little that can be said in criticism of this picture, for it is among the best amateur-made scenario pictures we've seen—especially so since its cast is completely of children. The attention to detail in costuming, continuity, etc., mark it as the work of an amateur who really knew his business. The direction—always a difficult problem when working with children—is particularly good. The children appear well at ease throughout, and there are plenty of the little "natural" touches that have to be thought out carefully ahead of time.

Our chief criticisms are of a minor nature. Most important, we can't help wondering why the maker didn't use a simple camera-trick to show the bear being transformed into the prince. It is so easy in a shot like that to simply use a rigid tripod, stop the camera at the point desired for the transformation, mark the player's footprints, have him change his costume, step back into his original footprints, and continue the scene which, on the screen, becomes a magical transformation. If the camera has a wind-back, of course, this can be done even more effectively by adding a lap-dissolve or even superimposed "wipes," a la "Topper."

The picture could also have benefited from more spoken titles and, if possible, a few more close-ups. The spoken titles should also have been on cards more uniform with the other, narrative titles. However, "Snow White and Rose Red" is a picture any amateur or club could show with pride to any audience.

THE TREASURER'S DREAM

Scenario, 200 feet 8mm Kodachrome.

Filmed by **B. M. Bevans.**

Here's a film that would be a sure prize-winner if it were judged by a jury of people who have served and suffered as treasurers of any amateur or professional camera-clubs. They'd agree that Bevans' scenario of the troubles of a club-treasurer who just couldn't make the "Asset" and "Liability" columns of the club's books talk the same language isn't particularly exaggerated.

The nightmare sequence is cleverly handled, making use of double-exposure, split-screen effects, and the like, aided by excellently descriptive pantomime. However, the climaxing scenes of this sequence, to our mind, at least, lost some of their dramatic force because the camera-angles on the approaching trolley-car were not well chosen. Most of them gave the impression that it was safely on the other track. It should have been shown always approaching from left to right across the screen, and the final shot would have been much more effective if it had been made from an extremely low camera position—as nearly ground-level as possible, with the camera shooting upward, so that the oncoming car seemed huge and menacing.

The lighting of the opening sequence deserves special praise. It has some of the most completely natural-looking Kodachromed interiors we've ever seen.

QUALIFYING FOR MEMBERSHIP IN THE BONES SKI CLUB

Semi scenario film, 200 feet 8mm Kodachrome.

Filmed by **Joe Jeppson.**

Here's a picture with a genuinely novel basic idea, the only thing lacking is phototechnical assurance in its picturization. The Bones Ski club appears to be a uniquely exclusive organization, eligibility for which hinges on the applicant's having actually broken some bones while skiing. The film tells the story of how one hardy skier qualified for membership and—after his fracture had healed—was duly accepted and initiated.

The opening sequences get the film off immediately to a bad start. The introductory scenes are a series of badly underexposed long-shots of skiers coming down a steep, wooded slope. These should certainly be eliminated. The next sequence is pretty good, dealing with the unsuccessful attempts of a very pretty girl to get into the club on the strength of a sprained tendon. It is only after this lengthy preamble that the main character—the man who breaks his leg—is introduced. From this point on, the picture is pretty well worked out, though more close-ups—especially in the initiation sequence—would be helpful, and the underexposed long-shots of skiing should certainly be eliminated, and if possible replaced with closer angles and better exposures.

Our suggestion would be to open the picture with a title telling specifically what the club is. Then introduce our hero and the girl talking about the difficulty of qualifying for membership. She could then describe her unsuccessful attempt, which could be connected to the rest of the picture by Photofade wipes at the start and end of the sequence. After a couple of close-ups showing the two nodding in agreement at the girl's remarks on the difficulty of qualifying, the man could remark, via close up and title, that one never could tell when he might unexpectedly "make the grade," and start out on his skis. From this point, the picture could continue very much as it is, with the addition of close-ups wherever possible.

HULA HOLIDAY

Travelogue, 600 feet 8mm. Kodachrome.

Filmed by **C. A. Thomas.**

This picture is, in general, a well-planned and well-executed travelogue—one which covers its subject, a trip to Hawaii, very completely indeed. Photography and titling are good, though in some scenes the exposure could be improved and the composition distinctly bettered. A number of long-shots are overexposed: this can usually be cured by taking meter-readings for such extreme landscape long-shots using the "½-normal" instead of the "normal" point on the meter's calculator.

Our chief criticism of the picture is that, like so many amateur travel-films, it includes far too many shots of personal friends of the filmer—who usually mean nothing to the average audience—and all too often the people shown are acting particularly silly for the benefit of the camera. If the film is intended for general showing, most of these shots should certainly be removed, and segregated in a separate reel. This way, you would have two separate pictures, each complete in itself: one a really fine travelogue of Hawaii as you saw it; the other, a strictly personal record of the friends you saw there. Fortunately, too, in this picture there is ample footage so that enough footage to make a complete "personal" reel of very near-

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THE BULLETIN BOARD

With War Orders, raw-material shortages and similar wartime handicaps seriously restricting the introduction of new photographic products, it seems to us that "The Showcase," our usual department devoted to such announcements, has become superfluous. In its place, "for duration," we are herewith instituting a new department which, as its name implies, is intended to bring to our readers the many and varied news items of interest to wartime filmers, both professional and amateur, which constantly come to us not only from manufacturers, but from Governmental film agencies, and from individuals and groups in all parts of the United Nations. We sincerely hope this new department will prove of constructive service to all concerned.
THE EDITOR

Army Engineers Want 16mm. Kodachrome Films

An opportunity is offered to all 16mm cinematographers — amateur and professional—to participate in the Nation's War Effort. The Corps of Engineers of the U. S. Army urges all cinematographers who have on hand any of their own original 16mm. Kodachrome films photographed outside the territorial limits of the United States to list their reels with the Engineer Board immediately.

DO NOT SEND THE FILMS THEMSELVES UNTIL REQUESTED. What is desired at this time is full information as to the length of the films, country in which photographed, nature of scenes, etc.

A statement permitting the duplication of selected scenes should be included. Films will be carefully handled, and not injured in any way, if loaned for duplication.

Address all letters to the Motion Picture Section, The Engineer Board, Fort Belvoir, Virginia.

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Standardize GE Recorder Lamps

Due to the national emergency, the Government has called upon lamp manufacturers to standardize and insofar as possible, to reduce the number of different types manufactured. Accordingly the Incandescent Lamp Division of General Electric has announced the standardization of lamps for use respectively in RCA and Western Electric sound-on-film recorders.

For some years RCA recorders, and some others, have used a 10-Volt 7.5 Ampere T-8 bulb UV recorder lamp, but at the suggestion of RCA an improved lamp was designed, rated at 10.5 Volts 7.8 Amps. This lamp is exactly similar in construction to the older lamp, but due to changes in the method of manufacture, it is possible to operate the new lamp at 10.5 Volts with a considerable increase in recording effectiveness. At this voltage, the new lamp has substantially the same life as the older 10-Volt lamp. It may also be operated at 10 Volts, under which conditions its effectiveness would be the same as that of the older design, but with substantially improved life. This type is now being standardized.

In some recording equipments such as Western Electric and others, several different types of 9-Amp. T-8½ bulb lamps have been used. One of these was a 9.5-Volt with a short filament coil; another was the 11.1-Volt with a longer coil, and another was a 10-Volt lamp with a stretched coil approximately the same length as that of the 11.1-Volt globe, but with the coils spaced farther apart. In order to obtain a single lamp which will meet all the requirements filled by the three former designs, G-E is now standardizing on a 9 Ampere, 10-Volt T-10 bulb lamp with the filament wound on a small mandril. This produces a filament of exactly the same length as the 11.1-Volt design and with the same number of turns per inch and turns per segment, to assure uniformity and high brightness. The new lamp also offers improved maintenance of effectiveness due to the larger bulb size which reduces blackening.

•

British Salvage Film

Recently the Advertising Department of Britain's Southern Railway produced a film entitled "Salving Our Scrap." Intended for showing to railroad employees in the railroad's travelling theatre-car, the picture shows how salvage can be gathered and waste avoided. Some glaring instances of wastage in time and material are also illustrated which may, the makers hope, put the brake on thoughtless individuals who leave lights burning, who tear up envelopes, who indulge in useless personal phone-calls, and the many other things England has found to damage her War Effort. All the players in the film are non-professionals, members of the railroad's staff.

•

Modernizing Filmos

With deliveries of new photographic equipment greatly curtailed by the War Effort, Bell & Howell has introduced two valuable services for keeping existing Filmo cameras and projectors in service. First is a service for modernizing older models. Included in this are such aids as adapting early Filmo projectors to use 750-Watt lamps instead of the 250-Watt ones with which they were originally equipped, converting Filmo 8mm. projectors to accept 400-foot reels, modernizing early-type Filmosound projectors; fitting three-lens turrets, back winds and hand-crank fittings on Filmo 8mm. and 16mm. cameras. The second service is one providing inspection, maintenance and repair service for Filmo cameras and projectors at economically standardized prices.

•

New Screen

With Civil Defense and Employee-training films taking the spotlight and often requiring projection before larger audiences than usual in either amateur or 16mm. commercial use, the introduction of Radiant's new portable, glass-beaded screen in larger sizes will be of interest. Known as the "Institutional Model DS," the new screen is made in four sizes, including 52x52, 45x60, 60x60, and 52x72. Its "auto-lock" feature is stated to eliminate all set-screws and other locking devices, while an automatic clutch permits raising and lowering quickly and easily to any height on the tripod, which is constructed of extra strong square tubing on both upright and extension-support.

•

High-Speed 16mm. Rewinds

A high-speed, motor-driven rewind for 16mm. film has been introduced in England through Pathe Equipments, Ltd., of London. The device is stated to be self-contained, with motor-drive, reel spindles, inspection lamp and controls mounted on a complete table unit. Speed of operation is variable, controlled by knee pressure, and an automatic brake is fitted to the idler spindle.

•

GE Offers Arc Welding Films

Six one-reel, all-color sound films designed to help the War Effort through faster and better training of welding operators are now under way for the General Electric Company's arc welding sales division. Titled "The Inside of Arc Welding," the films are being produced by the Raphael G. Wolff Studios, Hollywood. First of the series covers the fundamentals of arc welding, and will be available about April 20th. Others will be ready about June 1, and will deal with technique of arc control and electrode manipulation for all welding positions, using both DC and AC equipment. The films will be made available to public, private and industrial welding schools, as well as to other interested groups, through the Visual Instruction Section, Publicity Department, General Electric Co., Schenectady, N. Y., or the nearest GE office or arc welding distributor.

Photography of the Month

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entertainment, lays no particular claim to being either a "big" picture or an unusual example of cinematography. Arthur Edeson, A.S.C., does his work in his usual, highly competent style, however. And the picture is worth seeing for one or two sequences—particularly those in the garden where Henry Fonda and Herbert Anderson drown their amatory sorrows in unaccustomed bourbon. In these sequences, Edeson has achieved some of the most remarkable effects of almost third dimensional roundness and plasticity this reviewer has ever seen. The sequence of the football rally is another highlight—an excellent example of the all too often forgotten value of rhythmic cutting, for which film editor Thomas Richards should take a deep bow.

FINGERS AT THE WINDOW

Metro-Goldwyn-Mayer Production

Directors of Photography: **Harry Stradling, A.S.C., and Charles Lawton, A.S.C.**

This entertaining (if unpretentious) "whodunit" is a fine example of the injustice of switching cinematographers in the middle of a production. Its photographic direction is credited jointly to two men. Parts of it are excellent, and parts of it are decidedly inferior, one hardly knows which of the two to blame, and which to praise. The true blame should probably rest with the executives who changed photographic horses midstream.

In any mystery picture, melodramatic low-key effect-lightings may be expected to figure prominently. They do in this case, and usually to good dramatic and pictorial effect. However, there are some sequences in which—especially in the long-shots—the personal lightings seem definitely sacrificed to the overall effect, with the result that faces go unnecessarily muddy. Both the lighting and the make-up employed on Lew Ayres through most of the picture could also have been improved considerably. However, the picture is sufficiently entertaining that these minor flaws hardly hurt it.

PARIS CALLING

Universal Production

Director of Photography: **Milton R. Krasner, A.S.C.**

In photographing "Paris Calling," Director of Photography Krasner seems to have done the best he could in what was an obviously difficult situation. The story and casting both conspire to give a somewhat synthetic atmosphere to the picture. Then he faced the problem of doing a picture which essentially demanded rather vigorous, melodramatic photography yet with a star who needs considerable diffusion of both lens and lighting to preserve the illusion of youth.

Viewed as a collection of individual scenes, and especially in the light of these restricting circumstances, Krasner's work is individually good. He exhibits a really fine flair for effective composition, and his effect-lightings are excellent. But viewed as a coherent production, "Paris Calling" is not so pleasing. To say the least, it is disconcerting to see scenes of Miss Bergner—diffused as heavily as any cinematographer would dare today—intercut with reverse-angle shots of the other players so crisp and harsh they might almost have been cut from "Citizen Kane."

The fault, we would say, was probably not so much Krasner's as that of the executives who seem to have demanded "modern" photography without consideration of the photographic limitations of their star.

JOHNNY EAGER

Metro-Goldwyn-Mayer Production

Director of Photography: **Harold Rosson, A.S.C.**

If you see the name Hal Rosson, A.S.C., on a picture, you can be pretty reasonably sure the picture that follows the credit-title is going to be an example of fine photography. "Johnny Eager" is no exception to this rule. It doesn't, perhaps, offer him quite the scope of some others, such as "Boom Town" and "Honky Tonk," but he handles everything that the story offers with that deceptively effortless ease which only accompanies really high photographic skill.

It would be interesting, indeed, to analyze the part photography has played in the development of Robert Taylor from his unfortunate beginning as an over-publicized "pretty boy" to his present stature as an established actor. It's considerable, obviously. The present picture highlights this, for it gives Rosson an opportunity to present the star very extensively by means of character and effect-lightings, which definitely strengthen the ruggedness of his characterization.

Movie Clubs

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has now been completed, and the Club premiere is expected to be held at the April 15th meeting.

PRUDENCE BRAKLOW, Secretary.

Philadelphia Elects

At the March meeting of the Philadelphia Cinema Club the annual election of officers was held and the following were chosen: President, George A. Pittman; Vice President, C. Harold Mooch; Secretary, Robert R. Henderson; Treasurer, Herbert L. Tindall, Jr.

Boyd Barnard, who won first prize in the annual contest, in a very fine spirit returned the money he was awarded, to be donated by the Club to the Red Cross. The Club by unanimous vote donated a substantial additional sum from the treasury. James R. Maucher and Dr. Robert E. Haentze showed a very excellent and entertaining film on "Colonial Williamsburg." Dr. Haentze, who has taken quite a number of pictures of animal life, showed very unusual movies of animals, birds and snakes with numerous close ups in his film entitled "New York Zoological Gardens." John A. Crap exhibited his film on "East River Drive" (Fairmount Park, Philadelphia, Pa.) and Mrs. Frances H. Hirst showed a short but excellent film on flowers, entitled "Over the Garden Gate."

ROBERT R. HENDERSON, Secy.

Tri-City Follows "De Soto Trail"

The Tri-City Cinema Club met in Moline, March 19th. Seventy members and friends were present. In the absence of President Raymond Schmidt, (Davenport), John Hoffman, first vice-president, (Moline), presided.

The outstanding feature of the program was the projection of twelve hundred feet of 16mm. Kodachrome by Harry J. Lytle, of Davenport, Ia. He called his film the "De Soto Trail," and followed the route of the famous explorer from Cuba through the scenic points of Florida, the Carolinas, Missippi, and Louisiana. J. P. Horton, of the Victor Animatograph Corporation of Davenport, Iowa, talked on the "History of Victor Equipment," and showed cameras and projectors from 1910 to the present development.

The Annual Prize Contest for the best movie will be held in June. John Hoffman (Moline), Dr. James Dunn (Davenport), and Dr. Albert N. Mueller (Rock Island), are the committee in charge. The entries are limited to four hundred feet in 16mm. and two hundred feet in 8mm.

GEORGIA T. FIRST, Secy.-Treas.

Metropolitans See "Usher"

Under the chairmanship of the genial Joseph Hollywood, New York's Metropolitan Motion Picture Club had the privilege of screening "The Fall of the House of Usher," the first great amateur movie, produced some fifteen years ago by Dr. J. Sibly Watson, Jr., A.S.C. This picture was also the first American-made impressionistic film, following the lead of the professionally-produced "Cabinet of Dr. Caligari," made in Germany by Karl Freund, A.S.C. Second on the program was one of 1941's top documentaries, "Singing Shadows," 16mm. Kodachrome film by Herman Bartel. The 8mm. prize-winner, "Auntie in Moccasins," by Joseph L. Harley, of Tenafly, N. J., concluded the program.

FRANK E. GUNNELL

All-color Show for S.F. Cinema

The March meeting of the Cinema Club of San Francisco turned out to be a Kodachrome evening. First screening of the meeting was Walter Darmstadt's 16mm. Kodachrome record of a young couple starting their honeymoon. The film is cleverly titled and chock-full of human interest. Attesting to Filmer Darmstadt's skill in composition are the nicely-framed vistas of the Canadian country seen in his "Yesterday's Memories. Past-President Smurr exhibited a tricky 16mm. Kodachrome film entitled "Christmas, 1941," into which he spilled

the whole bag of cinematographic tricks, including multiple-exposure, mask-shots, split-screen, and so on C D. Hudson projected a selection of Kodachrome slides, and "Go North where the World is Young," a 16mm Kodachrome by Rudy Miller, wound up the evening's entertainment. This ambitious film, depicting a trip through Alaska, had the audience gasping at the sheer beauty of many of the scenes.

L J. DUGGAN, Secretary.

Poets in Indianapolis

Following the tradition laid down by James Whitcomb Riley and the other famed Indiana poets, two members of the Indianapolis Amateur Movie Club went amazingly lyrical. Dr Joe Sovine, Chairman, sent out his invitation in clever verse, and drew an equally clever reply from fellow-medico Dr. L E Foltz Dr. Sovine's meeting was highlighted by a demonstration of focal length, conjugate foci, effects of diaphragms, and spherical and chromatic aberrations The demonstration was made with a gadget consisting of a board about four feet long with a F&R spot fixed at one end, a screen at the other, and a movable reading-glass between the two Placing a tin can over the spotlight, with a Kodachrome transparency in it, the effect of diaphragms was shown by placing pieces of cardboard with holes of different sizes over the lens to show the correction given the projected image by stopping the lens down

The February meeting was at the home of W. W. Locey, and included the screening of a 200 foot vacation picture processed and edited on location. "There Goes the Mail," a documentary showing how our mail is handled, was also shown Mr. Locey's technical program was of the quiz variety. He had each member bring two technical questions to the meeting, and then appointed a board of three alleged experts from among the more experienced members (Dr. Sovine, Mr. Tremblay and Mr Culbertson) to answer the questions. The board was given a chance to answer the questions, if none volunteered, one was drafted, and if none of the three could answer, it was left up to the membership to provide an answer This system worked out very well

ELMER M. CULBERTSON

Triangle Cinema Member Wins Honors

The Triangle Cinema League of Chicago is happy to announce that one of its officers has won new honors in the movie-making field Vice-President H. S. Gould captured seventh place in the recent Chicago Cinema Club-Esquire Theatre Amateur Movie Contest. The film was "Opened Before Christmas," an unusual live action-marionette 16mm. fantasy which uses both black-and-white and Kodachrome, and special recordings for the sound accompaniment. Mr. Gould, incidentally, is planning to make further films using puppets, and would greatly appreciate hearing from any other amateurs who have had similar experience filming marionettes. He may be reached care of the Club's Secretary, at 1528 Harding Ave., Chicago.

LEO BROOKS, Secretary

Equipment Trucks

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studio's light tractors. A suitable coupling is mounted at the rear, so that several units may be towed one behind the other

The body of the truck is a sturdy metal locker. On the right-hand side is the main cine-equipment compartment. As will be seen from the illustrations, this provides space for storing a complete Mitchell BNC camera outfit, complete with tripod-head, six 1000-foot magazines, sync and "wild" motors, cables, and all accessories. Three drawers provide places for the regular and spare finders, lenses, filters, diffusion equipment, and other accessories including regular and wide-angle matte-boxes Each component fits solidly into its place, so that there is no danger that it will move or shift and become damaged in transporting the truck from place to place

When moving simply from one stage to another, the shelf upon which the BNC's magazine-cover usually rests can be folded upward, and the camera put into place without removing the magazines or their cover. The shelf upon which the camera is carried slides outward on a ball-bearing track and, it may be mentioned, is sufficiently strong so that a heavy man may stand on it without damaging it The top of the truck is fitted with wooden planking, so that it may, if necessary, be used by either the camera or still crew as an emergency low parallel.

At the rear is a locker for the Still-man's equipment Space is provided for his 8x10 view camera, his 4x5 Graphic outfit (in its case) plateholders, flash-synchronizers, flashbulbs, and similar accessories.

On the left-hand side is a utility locker in which cine and still tripods are kept, and room is provided for such bulky accessories as battery-cases, and the like Where necessary, extra magazine-cases, or even a complete standard Mitchell camera, in its cases, may be stowed here.

In the front end, at the right side, is a small additional locker In this are provided hangers for the coats, etc, of the camera crew, and a space for slates, and the like.

Locks are fitted to the doors of each compartment. As a rule, the Assistant Cameraman is supplied with one key, the Still-man with another. The Assistant's key will open the cine-camera locker, the utility locker and the coat-locker, but will not open the still-camera locker. The Still-man's key will open the locker in which his equipment is kept, the utility-locker and the coat-locker, but will not open the cine-camera locker. This assures that only the men directly concerned will have access to the equipment kept in any of these compartments.

When additional film is needed during the day by a company, it is brought to the stage in a motor glide equipped with a specially-fitted sidecar with compartments designed to hold the 1000-foot magazines. When extra cameras, blimps, and so on are required, they can be transported in a special, open trailer with a weatherproof "covered wagon" tarpaulin roof, which may also be hauled behind the department's tractorette.

Though this equipment has only been in use a comparatively short time, it has already contributed greatly to the efficiency of the camera department's operations, and to the convenience and certainty with which the production crews on set or location can work. END

Home Movie Reviews

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ly 200 feet could be removed without in the least impairing the general-interest travelogue. It would, in fact, really strengthen it

ALL WOOL AND TWO YARDS WIDE

Industrial-documentary, 150 feet, 8mm. Kodachrome.

Filmed by **John Huefner** and **Don Dillingham.**

A creditable amateur-made commercial film, illustrating the making of fine woolen blankets, from the virgin wool to the completed blanket. The subject-matter is covered quite thoroughly, and the photographic technique is generally good.

The main criticism we can offer is that there is a very serious lack of explanatory titles. It is all very well to confine a title to the simple statement "Carding:" but the average audience wants to know just what this process does. In other instances, operations are shown with no explanation, leaving the viewer to wonder why the freshly-woven blanket is, for example, passed over rollers under a stream of running water, and so on. This could easily be remedied with more explanatory titles. Some of the basic processes, like carding, spinning, and perhaps weaving, could also be made more clear by a few added shots of the simplest, "homespun" versions of the same operations.

Conservation

(Continued from Page 167)

tionally, a hen will return to the submerged nest to build another and lay her eggs, resuming her maternal duties. Whenever the photographer discovers such a setup, he has a sequence worth recording for posterity, and one which will brighten any conservation movie.

Ducklings emerging from their eggs furnishes a pleasing sidelight. Filming

the procedure will take much longer than you expect, and you will soon discover that you cannot run your camera continuously. Then, too, exposing a foot or two of film at regular intervals only tends to give a choppy effect. If your camera is equipped for fading and dissolving, you can smooth out the sequence nicely. Or change your camera angle or distance from time to time.

Your final close up might be a wet-feathered youngster wallowing over the nest to get his first glimpse of sunlight. In filming such nests, tie back but do not cut away any offending cover which might cast objectionable shadows over the nest. When you are through, release the cover to protect the nest and its young from predators.

Predators do play a big part in any conservation movie. It has been found that the Franklin ground squirrel, an apparently harmless little fellow, actually destroys some 7½ million potential ducks every year. For the 1940 DU film, I had the good fortune to photograph on the south end of Lake Manitoba a gangster squirrel actually raiding a waterfowl nest. The sequence shows him rolling out the egg, grasping it between fore and hind legs, and bringing down his sharp incisors to crush the shell.

Magpies and crows also spell death to duck populations. One of the highlights of the DU film was a color shot of a crow actually devouring a duck egg, while squatting on the edge of the nest, and killing and eating a baby duckling along the shore of a lake. Such spectacles are often seen afield, but rarely filmed.

Perhaps it may be necessary to rely on charts or animated maps to unfold a part of your conservation story. To picture the drop in duck populations from 1850 to 1934, DU's artist prepared a large title-card, on the right side of which were laid 400 duck silhouettes (each silhouette representing one million ducks). On the left side, the respective dates and populations were lettered on cardboard strips.

Thus, by giving single frame exposures for each duck removed, and changing dates and population figures, it was possible to chart the decline graphically. Dissolves were used to smooth out the transition between dates.

Animated drawings are easily handled and often furnish a chuckle. To show that at one time ducks and duck-hunting were on the way out, this same DU artist painted a typical hunter, duck and dog, each cut from cardboard with limbs hinged to move freely. These were placed on a painted marsh background and laid on the floor, the camera being mounted overhead to shoot down vertically.

One person manipulated the hunter, another the duck, and still another the dog. The idea was to show the trio, disgruntled and discouraged, walking from left to right across the frame. By moving each limb a small fraction of an inch, exposing two frames for each motion, forward animation was thus obtained.

For a final touch, a dozen golden suns were cut from cardboard, and on each was painted a face growing progressively sadder. As the trio lumbers along, the sun loses its smile and begins to set, hitting the horizon, bouncing up again and slowly sliding down beneath the horizon-line in normal fashion. Although the horizon was only a painted line, the impression of a setting sun was secured by cutting off a small portion of the base of the sun each time a frame was exposed, until the whole orb itself had disappeared.

If you plan to work into your film a map on which lettering will appear, save your map for further use by lettering on transparent celluloid placed over the map itself. To animate a line showing, for instance, the fall and rise in wild-life populations, lay out the inked sketch in full on the celluloid surface. Mount the camera so that it will shoot downward, but invert the map. This is the same as inverting the camera for an upside-down effect.

With a pen-knife, scrape off a tiny portion of the inked line or the lettering, exposing frame by frame, until the whole surface is cleared. When the film is processed, cut out the sequence, reverse it end-for-end, and you will see the lines and lettering magically taking form. This is more satisfactory than simply drawing or lettering as you shoot.

If possible, give your conservation film a timely tieup. The current Ducks Unlimited movie, which will be released about the time this article sees print, is titled, "In Defense of Ducks," working in perfectly with the war angle. Cut into the film are brief glimpses of actual warfare from captured enemy film, loaned to DU by the Canadian government, and the parallel here is to show that even as man has enemies in his civilization, so ducks suffer from predators, piscatorial subs and endless blitzes.

Naturally, any conservation film that shows the destructive forces must also depict the constructive things. Where drought hampers ducks, reveal how the construction of dams has restored former water-levels. Bring in the towns people who cooperate by salvaging sick ducks and transporting them to fresh water.

Where fire once caused great destruction, picture how education of farmers in proper farmland burning methods saves thousands of nests annually. If necessary, stage an actual fire scene—spotting the fire, telephoning for aid, fighting the blaze. At one filming location in northern Alberta, remote from electricity and photoflood lighting, an "interior" of a fire warden phoning for help was obtained by yanking the telephone out of the dark cabin interior and mounting it on an outside log wall, where the subject could be properly lighted.

Conservation films are alive with marvelous filming possibilities. If you are really ambitious, make a list of all the birds or animals in your state, and set about religiously to film them. Or take one species and follow through with a film story of its life history from birth to death. Or make a color close-up study of the various species of ducks in the water and in the air, since too few hunters can identify even protected species when in flight over a blind.

Shooting for conservation will put an end to haphazard, purposeless filming. Such filming will not only add to your storehouse of information, but tax your ingenuity, for these furred, feathered and finny fellows often turn out to be more temperamental actors than you ever imagined! END

Auricon Camera

(Continued from Page 165)

ning characteristics. Therefore a considerably smaller and higher-speed (1800 RPM) synchronous motor with better operating characteristics is employed to drive the camera-mechanism, and a separate, non-synchronous motor is used to power the take-up, governed by the smaller main-driving unit. The main drive is through the same vibration-damping "floating drive" system employed in the Auricon recorder, and the take-up of course through an automatic friction-clutch.

The sturdy recording galvanometer is essentially the same type as that used in the Auricon recorder, though differing in details of design and mounting. It is usually rugged; it will take very considerable overloads—including even gun-shots—without harm or annoying centerline shift. All adjustments to the recording optical system are carefully made at the factory, and locked permanently in position. The frequency-response of this variable-area recording unit is stated to be greater than the reproducing range of most commercially-available 16mm sound projectors now in use. A noise-reduction circuit is fitted.

The amplifier is a separate unit, and is identical with that used with the Auricon recorder. It makes use of the same types of batteries and low-drain tubes used in most portable radios, and therefore available almost anywhere.

Exposure of the sound-track is controlled by a rheostat and ammeter on the amplifier panel. A switch on this panel also checks the condition of the batteries. Volume is easily adjusted by the controls provided for the two input channels, and is shown by a second meter known as the Volume Indicator. The sound being recorded is also heard through the monitoring headphones. Indications are provided for the correct exposure-settings for the various types of film-stock most likely to be used.

The camera's 200-foot film-capacity (using standard daylight-loading spools) matches that of the Auricon recorder, and gives 5½ minutes of uninterrupted

operation if scenes of such length are desired. Any type of 16mm. film may be used, including black-and-white reversal or negative emulsions, or Kodachrome. Single-perforated sound stock must of course be used.

The Auricon camera is equipped with a single-lens mount, designed to accept any "Type C" lens-mount. Therefore lenses from most Filmo 70, Bolex or Victor cameras may be interchanged with the Auricon sound-camera. Lenses for the Cine-Kodak Special and Leica may also be employed by use of the "Type C" adapters made by their respective manufacturers.

The finder used on the Auricon camera is almost absurdly simple, yet is one of the most accurate made. By use of this open-frame type finder, not only are precision optical units conserved for other, more vital uses, but many operating advantages are secured. Framing is stated to be unusually accurate, because with this "iconometer" open-frame finder a larger image is seen, and with exactly the same illumination seen visually without the finder. All objects appear as large as though no finder were being used—a distinct advantage in making sure the comparatively small microphone is not inadvertently included in the field. The image is also upright and laterally correct. Parallax correction is obtained by means of lateral adjustment of the rear eyepiece along a calibrated slide, and the forward frame is fitted to take cut-out mattes of colored celluloid, professional-style, to match the field of longer-focus lenses.

Designer Eric M. Berndt, who is perhaps the outstanding pioneer in 16mm sound-on-film, has some interesting comments to make on his reasons for simplifying the camera's design as he has, and for employing electric motor instead of spring drive. "The problem in recording sound," he says, "is to obtain perfectly smooth motion of the film past the recording aperture. It is also necessary, in order to maintain correct pitch in the recording, that the film move uniformly at the rate of 24 frames per second (36 feet per minute in 16 mm.), which is the world-wide standard for correct reproduction on sound-on-film projectors of any make.

"Obviously, it is not practical to record sound during the time the camera is slowing down, when it is starting up, during the making of a lap-dissolve, or when shooting above or below normal speed for any special effect such as slow-motion. Many spring-driven cameras have means of running at various speeds, back-cranking, etc., for making these special photographic effects. Frankly, for such special purposes they are much better than any sound-camera can be. That, I think, is well shown by the fact that in professional practice scenes requiring other than normal speed are invariably shot "wild"—that is, without direct-recorded sound—and dissolves, etc., are put in by after-treatment.

"Moreover, a spring drive is not absolutely constant, even from the picture viewpoint. As any user of a spring-driven camera has probably noticed, the speed varies to some extent, depending on the camera involved, between its fully-wound, partially-wound and almost-unwound conditions. Also, the gears in most spring-driven cameras do not provide steady enough motion for sound-recording purposes. And the spring has to be rewound every 20 or 30 feet, which is at the least a limitation when dialog scenes are considered.

"From all of this it should be evident that the first and foremost consideration in building a sound camera should be to eliminate those things which will affect the recording of good sound, and which can be handled as well or better by ordinary spring-driven cameras. It will be noted, incidentally, that in all instances where existing spring-driven cameras such as the Cine-Special and the Filmo 70 are used for synchronized sound-recording by double-system methods, the spring drive is bypassed and an electric motor drive substituted.

"The Auricon camera is therefore driven by a synchronous motor which keeps it operating always at a constant speed of 24 frames per second and completely eliminates stopping for rewinding. The 200-foot daylight-loading capacity, together with this electric motor drive, permits running the whole 200 feet through at a single 'take', giving a full 5½-minute scene if desired. The motor regularly supplied operates from the 60-cycle, 110-volt current generally available. Where necessary, 50-cycle motors can be supplied, and for field use, the unit may be driven from the battery-powered Auricon portable power-unit, which will supply power for two full hours shooting, or several thousand feet of recording, and may be recharged overnight from any 110-volt line.

"Since the motor-drive is of the synchronous type, the camera may be used for double-system recording with the Auricon recorder or any similarly-powered unit. The Auricon amplifier may be used with the Auricon camera, and vice-versa. Thus if one purchases an Auricon camera-outfit, and later wants to change to double-system recording, it is only necessary to obtain an Auricon recorder, and operate the two together. Conversely, if one already has an Auricon recorder and its amplifier, and either has no synchronous-driven camera-equipment for 'sync' recording, or wishes to make single-system recordings for field use, it is only necessary to obtain an Auricon camera and use it with his existing Auricon amplifier."

In developing this simplified and remarkably practical 16mm. sound-camera, Berndt has certainly advanced the cause of direct 16mm. sound-filming by either professionals or advanced amateurs fully as much as he did nearly two years ago when he introduced the sensational Auricon recorder. And, as we remarked at the start, this new unit makes its appearance at precisely the moment when it can be most useful in the making of civil defense and training films by both professionals and advanced amateurs. END.

Amateur Gadget Aids Defense

(Continued from Page 164)

followed. The film—and its message—were saved.

When the film returned from the processing station, it was found that it reported for that flier who gave his life for World Freedom. It reported for him even more fully than he could, for it told what happened even after he could no longer observe. Everything from the start of the dive to the second of the crash was recorded on that film!

Much of the story that film told is highly technical, and a military secret, as well. But this much can be told. The photographed readings of the plane's instruments told the engineers and government investigators all that happened during that fateful dive. They revealed the speeds and stresses that made that wing break—facts which enabled the designers to make newer models of the plane stronger and safer. And they told why the pilot failed to take to his parachute. He couldn't, for as the wing snapped, the pilot was knocked unconscious. Yet the camera kept grinding till the last second, its unerring mechanical eye recording data of incalculable value.

The Federal Aeronautic Authorities have stated that this film is the most valuable one of its kind ever made. It points the way, too, to the value of the magazine-type 16mm. camera for hazardous jobs of this kind, for even though plane and camera were demolished, the magazine survived the crash, and brought its priceless record to aid in making America's planes better. And cinefilmer Dudley Porter, who designed and built the control which kept the camera grinding despite all the shocks and strains those fateful last moments brought, can well be proud of his contribution to America's War Effort. So, too, can the fellowship of home movie gadgeteers, that their phase of the filming hobby should serve Democracy so signally! END

Defense Film Diary

(Continued from Page 162)

day of shooting. We allowed ourselves six weeks to make the picture and planned our shooting on Sundays and one or two evenings during the week.

A Ciné-Special and two Victor Fives were chosen, after testing for framelines to be sure pictures on all three could be matched. Enough film was planned on to make two pictures, one silent and one sound. Our twelve committee members had been organized into special groups and were really going into action.

Our chairman and coordinator, Midge Caldwell, made all contacts and took care of all special business. Our Director, Ray Fosholdt had been busy trying

to find a young actress for our picture who had looks, acting ability and enough physical stamina to climb ladders, ascend roofs and not be afraid of bombs.

Chief Evans was made technical adviser and co-star. Clarence Aldrich was made Chief Cameraman. Val Pope took charge of camera No. 2 and also directed all lighting, with Harold O'Neal, Earl Everley and Chick Morey working under him. Myron West, Carl Weldin and Earl Everly were in charge of properties; Ted Phillips chief electrician and Julian Hiatt, Jack Nicholson and Harold O'Neal in charge of publicity stills.

A beauty parlor with an overhanging balcony was our first set. We arrived to find the lighting crew had been there for hours and had a scaffolding set up with all the lights you could wish for hung on it, not to mention some baby kegs for which our ingenious chairman had made a special trip to Hollywood.

Our cast, which consisted of four gossipping women, arrived at one in the afternoon and work really began. By 7 o'clock we were tired, dirty but happy, for ¾ of the scenes scheduled for that day had been taken. We trooped out for coffee and were back in twenty minutes to start again.

By ten we were finished — but you should have seen the beauty parlor! A very opportune time indeed for the owner, Mrs. Burton Skiles to come by! From the look on her face she must have thought it would take two days to remove all the equipment, which included a dolly and several feet of track for it to ride on. It had been built by our two very ardent admirers of dolly-shots, Val Pope and Harold O'Neal, and is a neat bit of equipment to use in a scene.

The bed of the dolly is made out of 5-ply wood fixed to a framework of 2 x 2 hardwood secured by carriage bolts at intervals around the frame. It has 4-inch hard-rubber wheels, a handle for pulling and pushing, and a little rail around the top. There is 65 feet of track for it in 10-ft. lengths made of 2 x 4's with a side guide rail. Segments of this track are joined with a diagonal cut overlapping in such a way that there is no jolt as the dolly passes over joint. Each joint is fastened with a 6-inch carriage bolt, and the sections of track are easily assembled.

One of our members offered his vacant lot for our next location. The following Saturday the lucky ones who didn't have to work at their respective jobs were allowed to build a set for the roof scene, and a parallel to shoot it from.

The next morning, our three cameras were placed at vantage points about this quickly-built set to film the scene of a bomb dropping through a roof and a young housewife doing all the correct things to combat it. One of our cameras took close ups while the other two covered medium and long shots.

Miss Mary Ann Purdy, our leading lady, ascended the roof and knelt down with a hatchet. *Pfft* went her silk hose! There was a brief but enjoyable delay while she took them off. Her nice white knees began to turn red from the rough roof and by the time the sun said "that's all for Kodachrome," the poor girl's legs looked as though they had been between nutmeg graters. Not one word out of her though, for she certainly was a real trouper! Before the picture was finished we realized how lucky we were to have a durable instead of fragile leading lady!

Finally came the scene for the magnesium to be sprayed with water. We were only able to procure one real bomb, so for all scenes except our most important one we substituted scrap magnesium and a nose and tail piece of a dummy bomb. Once alight, it worked just as well.

Everyone was a bit warm under the collar, for we wanted our "big scenes" to go just right; retakes were out of the question.

Everything was going smoothly when she turned the nozzle on for the spray. The wind, the magnesium and the pressure in the hose cooled everyone off in a hurry. The dripping cameramen wrung themselves and their cameras out, called it a day and went home with their fingers crossed.

The next Thursday evening we set out to film the PBX and control board at the Fire Dispatcher's office. Everyone left word at home they would be back in a couple of hours as this was "just a simple shot." A little kidding went on as to when they were going to have their next fire while we set up our cameras. Lo and behold there came an alarm. It was a big fire—the Navy Hospital! Our scene was forgotten. We grabbed up the cameras and followed the hook-and-ladder, entertaining visions of choice scenes of a really big fire, which would fit into the picture somewhere.

Scattering to find a good camera angle, we were soon doomed for disappointment, for special police informed us that cameras were banned.

We returned to the car before we noticed one of our group was missing. Midge Caldwell was nowhere in sight and no trace of her or her camera could we find.

Suddenly it dawned on us and we went over to one of the policemen. Yes, they had taken cameras away from several who had slipped inside and taken them down to jail for questioning . . . thirty minutes later we picked up our now very quiet and subdued camera pal and returned to get our original scene. We trudged home very much later that evening, but some of us were a little bit wiser.

Our next location was a deserted house over on the other side of the channel which was going to be moved. This was our big scene. Our real bomb was going to be used and everything had to be letter-perfect.

Carl Weldin and his crew worked one evening and part of the next, papering and furnishing one corner of a big room and faking a window. Props were a little hard to get when they were to be damaged by fire, but finally a social service organization, Goodwill Industries, furnished us with a rug, chair and two small tables, and the Ellis Paint Co. gave us the wallpaper. We were proud of the set when it was done and a little more so when the audience of youngsters hanging in the windows informed us it looked better than their bedrooms at home.

We used blue photofloods to give us our daylight effect, and it really taxed us to cover this large set for although they are given the same rating as ordinary floods, we had found it takes more of them.

At 8 o'clock Engine No. 13 dropped by "just in case." Our leading lady began to get a little jittery as she eyed the real bomb. By this time, the fire apparatus outside had attracted the major part of the neighborhood and we soon had a fire-thirsty audience eagerly looking on. You could hear whispers of "A real magnesium bomb!" circulating through the crowd.

If practice makes perfect it was surely so that night, for our actress was nearly exhausted just from rehearsing, before we were ready to start actual shooting! Our nerves began to wear to a razor's edge just from the thought of having only one bomb to work with and not knowing what reactions to expect from it. We checked and rechecked the props, lighting, action, cameras and exposure.

Finally we were ready. There were firemen at each door with live hose and one near the set with an extinguisher. The crowd outside was on its collective toes, their eyes glued to the long metal bomb on the rug. It give a couple of little sputters and then a boom and a glaring flash filled the room with smoke and fine ashes. The spectators practically left their shoes!

The cameras, one at the end of the room, one at the side and one in the rafters, were grinding away. Mary Ann was spraying the burning curtains with a really determined and grim look on her face for she knew she had to fight the bomb alone unless something very unexpected happened. After putting the blazing curtains out, she brought in her pail of sand and a shovel. As she covered the bomb with sand everyone thought it must be out but the minute she went to shovel it into the pail it spurted into a bright flame again.

She began to work a little faster and thought the remaining parts were stubborn, by working carefully and following the calm voice of her director, the scene was completed without a slip. As the crowd began to depart, we pulled our third cameraman down from the smoke-filled rafters and began to revive him, while the leading lady fell exhausted across what was left of the bed.

We had as visitors on the set that night, William Stull, A.S.C., Editor of AMERICAN CINEMATOGRAPHER, and Andrew Boone of "Popular Science," who congratulated our Director, Ray Fosholdt, for the calm way in which he directed the scene and our leading lady, Miss Purdy, for being a real trouper and giving a fine performance.

I didn't have to drive out to location

the next Sunday. It was my home. I looked on meekly as cameras, tripods, lights, ladders and pails of sand and magnesium began to roll in. With equipment from one end of the house to the other and the lunch basket firmly planted on the breakfast table, the filmers began their work.

Square-nosed shovels, an axe and the correct equipment stole the scenes for awhile. Before our leading lady started to climb the high ladder a strong wind sprung up and for awhile we thought we might have to delay that scene. After that, we shot interior scenes in the living room, hall and bathroom and at 9 o'clock we called it a day and had lunch and beer.

Our shooting schedule is over but now the editing really is something. The entire picture was shot in Kodachrome and we have had a black-and-white work print made of it to edit first in order to keep from damaging the original. After the editing is completed and before the sound is added, the narration and picture will be checked by the proper authorities. We have ten more days in which to finish it within the time we alloted ourselves. Enjoy it? I'll say we did! If you really want an experience, just make a picture on "Incendiary Bombs!"

P.S. What did we learn? The first thing we all learned was if magnesium bombs are taken care of right away there is really nothing to fear. Because some of our scenes were taken of Fire and Police officials, PBX Boards and various Civic organizations, we learned how they function.

We found out it's the bunk to try and conserve film if you want to make a good picture. You can't stay on a budget, we were about ¼ through the picture when we stopped watching the footage indicator and started digging into the Club Treasury and our own pockets too. The Club may not be getting some of the new equipment it was planning on and maybe we'll be wearing this year's suit next year—but one thing we know is that we'll have a picture we're proud of. It was also a constant revelation to find public officials and various organizations so cooperative in helping us make a picture for our country. END.

Defense Script

(Continued from Page 163)

Scene 20. Medium-shot of bomb burning.

Narration. "Here's what would happen if you should throw a pan of water on a magnesium bomb while it is burning. As you see, a violent explosion takes place throwing fire as far as 20 to 30 feet. You can easily imagine what would happen if this occurred in your home."

Scene 21. Medium-shot of bomb burning. Fire Official with hose using stream of water.

Sound. "The same thing happens when a solid stream of water is turned on the burning bomb. Water can be used to control these bombs—"

Scene 22. Medium-shot of Fire Official using spray of water.

Sound. "—but it must be used in the form of spray. This causes the bomb to burn out in about 4 to 6 minutes and also makes it possible to control the fire the bomb has started."

Scene 23. Medium shot of bomb burning on rug. Fire Official demonstrates proper use of sand.

Sound. "When using sand to control the bomb, you should have at least two 3-gal. pails of dry sand close by. Use a square nosed shovel to sprinkle sand over bomb. Roll bomb onto the sand and scoop sand and bomb into pail in which you have left at least 4 inches of sand. Now put remaining sand over bomb in pail and carry it outside on the ground or cement where it can do no harm."

Scene 24. Close-up of Mrs. Ann saying: "I should worry, I have a fire station right across the street."

Scene 25. Close-up of Fire Official saying: "During an air raid you are your own fireman. Don't contact the fire department either by phone or alarm box. In times of a raid the fire department must take care of the industries that are making tools of war to help protect you."

Scene 26. Montage shot of Dispatcher's Office, PBX board, air warden, ambulance driver, police and fire officials calling, fire station gong ringing, engine rushing out.

Narrator. "See how impossible it would be for the Fire Dept. to answer individual calls. If the fire gets out of control, your air-raid warden and neighbors will help you."

Scene 27: Medium long-shot of Fire Official beside shovel, hose, sand, etc.

Narrator. "The necessary articles to have in your home to combat Incendiary bombs are, a garden-hose ⅝ to ¾ inches in size, equipped with a Boston type nozzle—one that can be adjusted to a fine spray. 2 pails of dry sand of at least 3 gal. capacity, a sharp hatchet, one the size a woman can handle, a long handled square-nosed shovel and a ladder of sufficient length to reach any portion of your home."

Scene 28. Close-ups of necessary articles to be cut in Scene 27.

Narrator. "At first sign of an air-raid, fill the bath tub and all available receptacles with water."

Scene 29. Close-up montage shots of bath tub and receptacles being filled with water.

Scene 30. Medium Long-shot of rubbish and magazines being cleaned out of attic.

Narrator. "Clean out your attics and remove all rubbish from around your house."

Scene 31. Medium Long-shot of rubbish being removed from around house and garage.

Scene 32. Close-up of Fire Official saying: "Let's suppose there is an actual air-raid—"

Scene 33. Medium Close-up of Mrs. Ann in living room reading. Hears sirens.

Narrator. "Yes, that's an air-raid signal."

Scene 34. Medium Close-up of sirens with steam coming out five times.

Scene 35: Medium Close-up of Mrs. Ann looking startled, turns and looks out of window then leaves room in a hurry.

Narrator. "Remember! Fill the bath tub and other receptacles with water in case of water shortage."

Scene 36. Close-up of bath-tub being filled with water.

Scene 37. Medium Close-up of Mrs. Ann looking up from tub or sink, startled as she hears thud on roof.

Narrator. "Did you hear that? A bomb has fallen on your house. You better hurry and find it."

Scene 38. Medium Long-shot of Mrs. Ann running down the hall and looking into the rooms.

Scene 39. Medium Close-up of bomb burning in bedroom.

Scene 40. Close-up of her registering consternation.

Scene 41. Medium long-shot of her running back down hall for equipment.

Narrator. "You'll need a hose, hatchet, shovel and sand."

Scene 42. Medium-shot of her coming back down hall with equipment.

Narrator. "Remember to protect your face until the thermit reaction is over." (Narrator continues with proper procedure).

Scene 43. (Int. of Set 2.) Medium Close-up as she grabs a stool, crouches behind it, uses spray on curtains till fire is extinguished. She puts down hose, brings in bucket of sand and shovel. Puts 2/3 of sand on carpet near bomb, covers bomb with sand, rolls bomb over on sand to prevent it burning floor. Scoops it up, and puts it in pail.

Narrator. "Here comes your neighbor to help you."

Scene 44. Long-shot of neighbor running across street and entering house.

Scene 45. Mrs. Ann puts shovel handle through pail and starts to drag it out. Neighbor comes in and takes other end of shovel and they carry it out.

Scene 46. Medium-shot of women returning with hatchet and flashlight to be sure all of fire is out. Mrs. A. sits back with sigh of relief.

Narrator. "Now suppose the bomb had gone through the roof and lodged in the attic—"

Scene 47. Medium Long-shot of Mrs. Ann running out of side door, gets ladder from garage puts it up and starts to climb.

Narrator. "Don't forget the hose and hatchet." (Explains proper procedure as—)

Scene 48. Medium Long-shot as she runs back to faucet, gets hose, and turns on water, adjusting nozzle, picks up hatchet inside door and returns to ladder and starts up.

Scene 49. Medium-shot as she ascends roof and looks down at hole where bomb has lodged. Drops to knees

and starts to chop hole larger.

Scene 50 Medium Close-up as she enlarges hole made by bomb, turns nozzle to a fine spray and fights the fire

Scene 51 Medium Close up of bomb with fine spray turned on it

Scene 52: Medium Long-shot of her returning down ladder after bomb has burned out Air-raid warden comes into scene and congratulates her

Scene 53 Interior of Beauty Shop Medium-shot of Fire Official and women as he finishes talking

Scene 54 Close-up of Mrs. K saying "And to think how foolish we were to believe all those rumors"

Scene 55 Close-up of Mrs. M. "From now on I'll believe only authentic information

Scene 56 Close-up of Fire Official saying: "America's man power is out at the front But in this war there are two fronts. Women like you, and you, and you are fighting on the Home Front"

Scene 57: Closing shot of a large cut-out "V". Women are marching past opening in V carrying buckets. hose, shovels, hatchets, etc.

Narrator "Keep calm. Be your own fireman! Do your part to keep the Home Front safe! Remember, it *can* happen here!"

THE END

(Superimposed over V)

Arthur Miller

(Continued from Page 158)

ways If you wanted to stay in lab work, your next promotion was to laboratory superintendent But it was also the jumping-off place for those of us who wanted to go into camerawork.

"By this time, you'd spent anywhere from six months to a couple of years or more learning all there was to know about film and photography, so folks just naturally assumed you understood camerawork, too. A few years later, if you wanted to switch from the lab to a camera job, you'd go out as somebody's assistant. But when I finished my apprenticeship in the lab, there was no such thing as an assistant cameraman. When you landed a camera job, they simply handed you a camera—and you went out and shot a picture!"

"The Perils of Pauline" wasn't Miller's first picture, but it was very close to it Between the thorough training he had received in Balshofer's lab, and his own inherent instinct for photography, he "made good" from the start He soon became one of the ace cameramen of the Kaybee company and, incidentally, a member of the first professional organization of cinematographers, New York's Cinema Camera Club which, with the Static Club of California, was one of the two forerunners of the present A.S.C

"Those," he says, "were the days! In the morning, you'd load your camera, and the whole troupe would start out, cheerfully riding the trolley-cars to whatever location had been picked If you needed help getting your camera cases aboard, the actors—even the stars—would gladly lend a hand. They'd paint scenery and move props in the studio, too! At any rate, after your day's shooting, you'd all ride the trolley home, with most, or all of your picture in the film-case, with story and characterizations shot 'off the cuff', improvised as you went along It wasn't Art—and with the biggest stellar salary around $75 a week, you could hardly call it even a business But we had a lot of fun making pictures in those carefree old days!"

When the "infant industry" began its trek to California, Arthur Miller, too, came West, and joined the New York Motion Picture Company at Inceville—a seaside ranch which is now an unmarked spot in the heart of one of Southern California's most exclusive seaside residential districts. From this association, he joined the Lasky Studio—forerunner of today's Paramount—where he soon teamed up with Director George Fitzmaurice, and for many years was the camera half of a partnership which turned out some of the industry's most artistically-photographed productions.

During this period, he had an assignment on which his laboratory training must have proven invaluable In 1923 he and "Fitz" went to Rome to produce a film called "The Eternal City" On that job, he was one of the few cinematographers who had no chance either to complain that the laboratory was murdering his negative, or praise it for saving his bacon. For four days a week he photographed scenes for the picture The other three days, the troupe rested—but Arthur worked, developing and printing the negative he had photographed! They had rented what Miller calls "an alleged film laboratory" in Rome Before starting production, Miller washed out the plant's developing tanks, patched up their racks, installed an American printer, and turned it into a first-class film laboratory, in which all the negative for the production was successfully processed.

All told, he and "Fitz" made two trips to Europe, including one on which he visited rural England and Wales, in unconscious preparation, perhaps, for filming "How Green Was My Valley" some twenty years later. The Miller-Fitzmaurice partnership endured for many years, not only at Lasky, but later with Samuel Goldwyn, consistently turning out films of outstanding pictorial quality In the later twenties, he became for a while part of Cecil DeMille's short-lived independent producing venture, filming, with Peverell Marley, A.S.C, "The Volga Boatman," and a number of films starring Leatrice Joy, who still remains his favorite actress. There followed brief engagements with Pathe, and with Universal.

Then, ten years ago, he was persuaded to go to the old Fox Films Studio for one picture. He has been there ever since, and judging by his performance

on "How Green Was My Valley," he is likely to be there for many years to come. He directed the photography of virtually all of the Shirley Temple pictures, in both black-and white and Technicolor, while she was the "little princess" of the studio, and filmed most of the studio's other luminaries—including the beloved Will Rogers—as well.

His twin hobbies are horseback packing on hunting-trips, and making home movies with his 8mm camera. On his next vacation, he plans to film an 8mm story of a mountain-lion hunt, preferably in Kodachrome. His film-library includes many reels of candid shots, made in the studio and on location during the filming of various of his 35mm productions, and reel upon reel of self-filmed travelogues.

His approach to a production is characteristically studious. "Wherever I can," he says, "I like to study the script thoroughly beforehand, and figure out just what I want to get out of each scene and sequence. When we start shooting, I try, as far as conditions will let me, to realize that advance planning in the actual shooting.

"In this, the director with whom you're working, and the executives for whom you're making the picture can do a great deal to make or break the photographic job you deliver. There are directors who seem to defy you to get even decent photography—men to whom photography, good or bad, doesn't seem to mean a thing. And then there are men like John Ford, who directed "How Green Was My Valley." Ford appreciates the value of good photography, not only from a decorative standpoint, but for its dramatic value, as an aid to his own work. He'll go out of his way to help you. Working with John Ford, even on the most difficult sort of a production, is a pleasure which cannot come any too often to any of us.

"It's just the same with producers. There are some whose only idea of photography seems to be to get a crisp, recognizable image, and maybe conceal the leading lady's wrinkles and the hero's extra chins. If you try to take even a few minutes longer per scene in the interests of good camerawork, you very quickly learn their opinion of such useless foolishness!

"And then there are producers like Darryl Zanuck. I don't believe he lays any claim to being a photographer himself, but he has an instinctive appreciation of good photography and what it means to a picture. He honestly wants his pictures to be the best-photographed in the industry—and he backs this up by going far out of his way to give his cinematographers every opportunity to do outstanding work. Let one of those non-photographic directors interfere with even a single day's work—and as soon as the rushes are screened, Mr. Zanuck makes it his business to find out what's interfering with the camerawork, and correct it. He's the only producer I know who feels that retakes to improve the photography are as commendable as re-takes to improve direction or acting.

"He thinks pictorially to a degree that very few other producers do, or can. He has an uncanny ability of viewing the rushes, not just as isolated scenes, but as parts of a coherent whole. For instance, we had some sequences in "How Green Was My Valley" which, if you looked at them alone, were pretty drab and unimspiring examples of photography. Most producers would have thought something was badly wrong with the camerawork; but Zanuck had such a clear image of the story in his mind that he knew just how essentially that unattractive visual mood fitted into the overall pattern. Ford and I were trying to create. He even complimented us on it!

"I've only known one other producer who had such a feeling for photography. I don't think it's any coincidence that one of my picture's strongest rivals for the Award was "Sergeant York," which Sol Polito, A.S.C., photographed for Jesse Lasky.

"Zanuck's camera-mindedness makes things better for all of us out at his studio. For example, he is one of the very few producers who have ever had

the wisdom to put at the head of their camera department an experienced cinematographer—in this case, Daniel B. Clark, A.S.C. Dan works with us and for us—and the results show on the screen in every picture. Just as an example, with Laboratory Chief Mike Leshing, he has worked out a system of coordinating our use of exposure-meters with the laboratory's excellent processing, and done it to such a degree that even on the most difficult effect-shots the cinematographer doesn't have to worry about the laboratory. You just shoot it as you see fit; then, if you have the ability to do the job in the first place, your rushes will show up on the screen exactly what you put on the film! Granting always the requisite ability on the part of the cinematographer, a condition like that gives you confidence and a free hand to go out and really try to put better things on the screen.

"All told, making a picture like 'How Green Was My Valley' isn't any one-man job; it calls for cooperation all along the line, from the studio head right on down. With that kind of support, a Director of Photography just naturally gives the picture everything he has, and maybe a little more that he wouldn't have if he didn't feel so strongly that everyone was trying so hard to help him turn out better work!" END

Professional 16's

(Continued from Page 157)

ble. While it may be and usually is convenient to compose a scene in an accurate ground glass image directly in line with the lens, instead of in an offset viewfinder, it is best to focus the image by measurement, especially with interiors photographed at large lens-openings.

The more of the above requirements and features which a camera has, the more suitable it is for professional production in 16mm. There are several cameras which have some of these items, others have most of them but at present only one camera has all of them—the Berndt-Mauer "Sound-Pro" Professional Camera.

The Bell and Howell Filmo Model 70, The Ciné-Special, the Bolex and the Berndt-Maurer and perhaps others all have synchronous motor drives as accessories and hence satisfy requirement number one.

The only camera which approximately satisfies requirement two—that of quiet operation—is the Berndt-Maurer. All the others are so noisy that they cannot be operated in the same room with a microphone without the use of a soundproof blimp. Even the Berndt-Maurer should be used with a blimp if any close-ups are desired. Both the Bell and Howell and Berndt-Maurer have removable 400-foot magazines, and the Ciné-

Special has 200-foot film chambers which can be used interchangably.

The Berndt-Maurer has the best viewfinder, although the Ciné-Special is acceptably accurate and the Bell and Howell positive viewfinder with alignment gauge can be used. However, if the Bell and Howell is blimped, the use of an alignment gauge would be inconvenient. Recently, Bell and Howell has developed a new professional model which is a modification of their 70-F camera, with a shiftover mechanism in which the whole camera is shifted from filming position to viewfinding position in the manner of the 35mm. Mitchell camera. Bell and Howell has also designed a silencing blimp for this camera which puts it in the professional class for production.

Another new development in 16mm professional cameras will soon be announced by the Eric Berndt Corp. of Hollywood. Their "Auricon" camera will contain a built-in galvanometer for single-system sound-recording with Auricon amplifiers, will have 200-foot film capacity for use with daylight-loading reels and will have an accurate viewfinder. It is motor-driven and designed so that it has a blimp built around it and can be used close to a microphone without pick up of camera noise.

Of the desirable features mentioned above, the Berndt-Maurer is the only camera which has all of them. Bell and Howell Filmos and Eastman Cine-Specials have lens-turrets, provision for windback and single frame exposure.

The Special in addition has a hand operated variable shutter for fades and dissolves, an accurate ground glass field for composing and an accurate footage and frame counter. The Cine Special's film pressure plate is removable for cleaning and checking. A soundproof blimp especially designed for use with the Ciné-Special has been built by the Eric Berndt Corp. It has provision for follow-focus on the lenses and is absolutely soundproof.

Although no blimp has been specifically designed for the Berndt-Maurer camera, it has been possible to use a blimp designed for a 35mm. Mitchell camera with very few changes. The new professional model of Bell and Howell's Filmo will have all of these features except removable aperture plate but since production of this camera has been halted due to material shortage, it is not commercially available at present. Considering all of the features which the best of 16mm cameras have, one can readily see why the development of the professional use of 16mm. has been so rapid in recent years. With properly designed professional 16mm. camera equipment, it is possible to do in 16mm almost anything that has been done with 35mm. camera equipment. (To be Continued)

Background Illumination

(Continued from Page 155)

In the second exposure-sequence, the black background was replaced by a dark gray one. The illumination was the same: measured by a standard reflected-light exposure-meter (a Weston "Master"), the background gave a reading of 0.8 foot-candles. The results, as might be expected, were virtually identical to those obtained in the first sequence.

The third test used this same gray background, but the illumination on it was increased to give a reflected-light reading (background only) of 3.5 foot-candles.

In the fourth test, the illumination on this gray backing was increased to a measured level of 6.5 foot-candles, as shown in Figure 2.

For the fifth test, the gray backing was replaced with a white one, and the background-illumination reduced to a level of 1.2 foot candles—the lowest conveniently possible with this considerably more reflective surface. This again gave a background which was very nearly black.

In the sixth test, the illumination on this white background was increased to give the same reflected-light reading was that obtained on the gray background in Test 4, that is, 6.5 foot-candles. As might be expected, the result proved virtually identical with that shown in Figure 2.

In the seventh test, this background-illumination was virtually doubled, to a reflected-light reading of 12 foot-candles.

The eighth test is shown in Figure 3. In this, the background-illumination was increased to give a reflected-light reading of 25 foot-candles which, it may be mentioned, corresponded to an incident-light reading of *f*:1 on the Norwood meter. In this, the white background was rendered as a pleasing light gray.

The ninth test increased the background illumination to a reflected-light value of 35 foot-candles, giving an extremely light gray rendition.

The tenth test, shown in Figure 4, increased the background-illumination to the maximum possible with the equipment at hand, giving a reflected-light reading of more than 50 foot-candles, corresponding to a Norwood incident-light reading of *f*-2.5. In this, as will be seen, the background is rendered as pure white, slightly lighter in tone than the rendition of the normally flesh-colored tones of the face.

In all of these tests a fact was observed which it is hoped will also be evident from the illustrations, despite the inaccuracies inevitable with the added variables inherent to magazine reproduction, namely, that regardless of the color or illumination of the background, the face tones, given a single normal lighting, exposure and printing, remained identical—and satisfactory.

A difference in overall exposure of even so comparatively little as ½-stop from the correct value as given by the Norwood meter's incident-light reading was sufficient to distort the desired tonal relationship between face-values and background and—more significantly—to distort the tonal and textural values of

the face itself from the desired normal rendition.

In the same way, printing the scene up or down even a single printer-light setting to correct for differences in exposure-balance proved sufficient to distort the facial renditions in the normally-exposed shots, and failed to restore the desired balance between facial tones and background-rendition in the incorrectly-exposed tests.

In other words, it may be concluded that regardless of the color of lighting of the background, *there can be but one correct lighting and exposure-level to secure normal rendition of facial tones.* If this is held correctly constant by means of incident light readings by a suitable meter, such as the Norwood, the background and its lighting may be balanced visually, the negative given strictly normal development and printing, with complete assurance that the vital area of the scene the players' faces—will always remain correct and consistent. END

Scattered Light

(Continued from Page 154)

ably fine contrast. This is to be attributed to the fact that the areas surrounding the field exposed on were practically unlit, and thus provided practically no extraneous light to produce scatter.

The manner in which light is scattered by the walls of a tubular lens mount for a long-focus lens is not, unfortunately, amenable to simple mathematics, but it is relatively simple to show its practical effect. In the experiment described below, the camera arrangement was identical with that used to obtain the curves of fig. 2, except that the step-wedge was substituted by a central patch giving as close to infinite contrast as could be arranged. (The patch consisted of an open-ended box facing the camera, with its interior blacked.) The lens, however, was fitted with a small tubular mount as shown in the scale drawing of fig. 3, and it will be observed that the tube length was small while the internal diameter approximated to that used in normal long-focus lens-mounts so far as its relation to the glass diameter was concerned. The interior of this tube was carefully blacked with the best matte black available, and to obtain comparative results a special light-trap was made up which could be pushed into the tube to cut off all scattered light from the walls. A calibrating exposure was made with the wedge in the dark slide, as before, and the total lens field covered 35° (as in Exposure No. 3 of fig. 2.)

The results of two tests given with and without the light-trap are shown in fig. 4. In experiment A two exposures were merely made on the infinite contrast subject with and without the trap. Here, it can be seen that after interpolation through the calibrating exposure, the minimum illumination in the focal plane with the trap was 6% of that due to the opal sheet background, while when the trap was removed this increased to 8%. (The increase with the trap in place over the value for fig. 2—2.80%—is due to the fact that some light is scattered by the edges of the trap.) Since the lens remained entirely as it was throughout both exposures, the increase in scattered light must be due to the internal walls of the tubular mount.

The second experiment B, made on the same subject, included a small Mazda lamp (100 watts) beside the opal sheet and 35° off the lens axis, with the intention of ascertaining the effect of a bright light well outside the field. Here, the scatter values in the focal plane were both materially increased, with the trap in place, the value rose from 6% in experiment A to 8% in B, and without the trap, from 8% in A to 12% in B. The effect of extra-image light is quite clear from these two experiments, and although the scatter with the trap in place rises on account of more light scattering in the lens itself, the difference between the with-trap and without-trap exposures indicates the rise in scatter from the mount walls. The last value quoted—12%— would make a satisfactory negative image impossible, since it implies that a maximum tone range of 1:8½ odd could be recorded in the camera.

It must not be forgotten that these exposures were made without a lens-hood, but at the same time light may reflect on the interior of a hood and appear in the focal plane in the scattered form. Its intensity will necessarily be less, but something will be there just the same. For this reason, it is just as important that light-traps should be provided for the lens-hood as for the tubular mount of long-focus lenses.

So far as the writer is aware, optical manufacturing firms have not yet awakened to the necessity for light-trapping of this order, in spite of its capability of reducing scattered-light intensities in the focal plane even more radically than any surface treatment of lenses. To segregate one portion of an optical system and concentrate on its improvement to the exclusion of other equally important components of the same system is to lose perspective, and the interest in surface-treated lenses which has lately been evinced in so many quarters should have been accompanied by an equally impressive campaign to deal with the purely mechanical aspects of the optical system such as lens-hood, tubular mount, and camera interior.

One telephoto lens for a substandard camera was shown just before the war to the present writer, in which the internal walls of the tubular mount were elegantly chromium plated, and the level of scattered-light illumination in the focal plane given by such a mount is something that any careful photographer would shudder to contemplate—yet this lens had been made by a firm with a world-wide reputation!

It is unfortunate that inflated adver-

tising has produced an impression that vest-pocket size cameras give infinitely better results than the larger sizes. the writer is not aware that any miniature camera is delivered with anything approaching an adequate lens-hood as a standard fitting. Doubtless this is due to the fact that such hoods (for an *f*-2 lens) would be considerably larger than the camera itself, but until some form of hood other than the half-inch of flange at present deemed adequate protection is provided, the provision of surface-treated lens components is hardly worth bothering about except from the point of view of advertising value.

The cinema industry is quite another matter. cinematographers have always had a precise idea of what they required, and when it was not forthcoming from the lens manufacturer they either made it in their own workshops or else got the camera manufacturers to provide it. Unlike the amateur market, they were more interested in performance than in chromium plate. But since even the best of us may tend to take his equipment for granted once it has reached a high level of performance, it is still useful for film cameramen to consider contrast effects due to scattered light in the focal plane, and to understand how it may be dealt with on those occasions when it causes practical difficulties. END

It's Still A Thrill —!

(Continued from Page 152)

Francis Boggs and Young-Deer. Among the actors I remember Jack Conway—now the successful director—and his beautiful wife, Tom Santschi, Herbert Rawlinson, Kathleen Williams, Iva Shepherd, and others.

There were no studios in Los Angeles at that time. Hollywood wasn't even thought of. All the pictures were made outdoors and in their natural backgrounds. This called for wide travelling, not only in California but in most of the other Western States. Our Stock Company employed a number of real cow boys, real Indians, and whenever we went on location we looked like a Wild West circus. Outdoor life, strange surroundings, and lots of adventure! Those pioneer movie days brought them all.

But in 1910 the first real studio was built (in Edendale) and by the end of 1911 our travelling circus days came to an end, and with it all the charm of our Wild West filming. Having to stick always in the same place, and daily go through routine work somehow didn't appeal to me. What I was longing for was new places, new faces, and new adventure. Many people have since found them all in Hollywood, but I decided to look farther afield. I knew they must be waiting for me in my own vast country—in Russia.

So I returned to Moscow in 1912, and installed a small laboratory of my own where I could develop negative and make "rush" prints. Then I started out on expeditions of my own, covering all of Russia from the Arctic regions to Crimea, Caucasia and Turkestan. Many a strange happenings took place during those travels! To tell them all in detail would take much more space than the Editor would allow, but here are two examples. In Khiva, I found the ruler of this distant and desert country to be an ardent admirer of photography. He owned a dozen photographic outfits of different kinds—but he didn't know how to use any of them! (I've since met amateurs in far more civilized regions who weren't much ahead of him, but we'll let that pass.) Learning of my presence, he sent for me to teach him the art of photography. Naturally I accommodated him. I gave him some lessons, but finally, I had to return to Moscow.

But the ruler's intentions were different! He wanted to keep me as his official Court Photographer, and asked me to remain forever. His offer was his eternal friendship, a vast stretch of land, a fully-equipped house, and as many wives as I might care for! He himself had about three hundred of them, but thinking, as we "civilized" men do, of all the troubles one has with only one wife, I managed to decline his generous offer. With the utmost courtesy and Eastern emotion, we parted.

Wherever I went I was met with hearty hospitality, and it seems to me that the more primitive the people are, the more simple and direct their hospitality appears. For example, on the Khirgiz steppes, among a nomadic family, I met a higher degree of hospitality than I could ever imagine existed. After a copious meal of fat boiled mutton, the head of the family offered me his young daughter for the night! Declining such generosity without giving insult to my hospitable host called for diplomacy which, if exhibited in more civilized surroundings would, I am sure, have qualh-

fied me for any diplomatic post in the world!

There are so many races and such a variety of folklore in Russia that I kept on travelling and filming until the outbreak of World War I. Then in May, 1914, I was approached by the Russian General Staff with the request that I organize a Military Film Department. I was naturally flattered to do this, and when it was accomplished to the satisfaction of the Army officials, I proceeded to the Caucasus Front to do actual war filming myself. All the major battles on the Black Sea between the Turkish-German and Russian navies were recorded by my camera, as well as most of the important battles on land.

When the revolution broke out in 1917, I was recalled to St. Petersburg. The same year the Provisional Russian Government sent me again to America, this time with the first Russian Diplomatic Mission, to show my Russian War Films in the White House. Still being in the military service, I was recalled from America to Russia, but before I reached home, the Bolshevik revolution had taken place. The offer made me by the new authorities was short and to the point. "Either you work for us—or we shoot you on the spot!"

I still valued my life, and for two long years I travelled up, down and across Russia with Leon Trotsky as he organized the Red Army, and then filmed the Russian Civil War before I had a chance to escape.

I landed in Warsaw in 1920, a refugee—penniless, in rags and hungry. By the merest chance I met there my dearest friend and professional colleague, Georges Ercole of Pathé News, New York. He introduced me to his boss, A. J. Richard, then Assistant Editor of Pathe News, who had come to Poland on a business trip and was looking for a cameraman. What luck! I became a Pathe News man at once, and from then until now I have kept on working under Richard's orders. When Paramount News was organized in 1927, Richard and most of the Pathé News Staff joined Paramount, and with that organization I am still at work—on my fourth continent.

It has been a fascinating work—just the kind I dreamed about in my youth. Working for an American newsreel company gives the man behind the camera all kinds of chances—maybe not that of becoming a big income-taxpayer, but including such out-of-the-ordinary ones as opportunities to be shot, hung or drowned, and once in a while the possibility of having a good time, as well!

And if you think newsreel camerawork is all just a matter of photographing bathing beauty parades and speech-making politicians, here is a record of some of my assignments in the last few years: Polish-Soviet war; Memel Putsch, Jewish-Arab revolt in Palestine; Wilkins' Alaskan-Spitzbergen flight; Gen. Nobile's dirigible expedition to the North Pole, Wilkins' expedition to and under the Arctic ice in the submarine "Nautilus," Austrian revolt in Vienna, 1934; Italo Abyssinian war, Spanish Civil War; Hitler's entrance in Austria; Nazi occupation of Czecho-slovakia; occupation of Albania by Italy, the beginning of the present war as the Nazis conquered Poland, and all the other political troubles in the Balkans until conditions made it impossible for an American newsreel representative to remain there longer. Then the long trip to America from Yugoslavia by way of Bulgaria, Turkey, Iraq, India, Java, Honolulu and finally Los Angeles and New York, ending in my present and very pleasant assignment to Brazil.

Add to this professional record two death sentences (fortunately never completely carried out!) and an outstanding assortment of jails for photographing things the local big-wigs said shouldn't be filmed. No lack of adventures, is there? Yet I look forward with enthusiasm to each new assignment. And strangely enough, even after thirty-eight years—it's still a thrill. END

Cartoon Production

(Continued from Page 151)

in which it is presented as much as in its content. The story man has a piece of goods to sell, and good showmanship in the form of well-done story sketches, along with good ideas, helps a hundred percent in putting the story across.

Sketches are generally done on paper of one size for the sake of uniformity of appearance which makes the continuity easier to read when pinned up on the story board. A story board is a large 4x8 foot piece of wallboard or celotex, on which the story sketches are pinned

in rows with aluminum push-pins. In a sense, the script of a cartoon is composed of three of four pages, each page four feet high by eight long. However, no one is obliged to sit down at a table and turn pages that size. They're more conveniently hung up on the wall.

The first continuity of a story is thrown up with very rough sketches and pencilled notes, in order to get the overall "feel" of the picture. No time is spent on careful sketching at this stage of the game, for the next week or so will see the changes fly fast and furious. New ideas pop up constantly, and the story man works in a frenzy of creation while the story is in this embryonic state. He's left pretty much to his own devices, because it wouldn't do anyone else any good to attempt to decipher the heiroglyphics on the board that represent the story continuity to date. Neither are interruptions welcomed. Ordinarily, the story man is more than anxious to get reactions to his ideas from an outsider with a fresh viewpoint, but at the outset of a story, when the whole thing is pretty nebulous in his own mind, other folk's opinions would only prove to be more confusing than valuable. Besides, it wouldn't be any more logical to criticize a story in this rough state than it would be to pass judgment on the finished appearance of a building merely by examining the builder's first sketches. So, generally, he hangs out the "Do Not Disturb" sign.

Well, about a week goes by. The skeleton continuity pinned on the story board begins to take on some meat. Little by little the holes are filled in with new sketches. Drawings take the place of written notes, better drawings supplant the first crude roughs. It's now the first spontaneous fires of creation burn the hottest, but the process gradually slows down as the story becomes more and more tightened up. Gags that were first thought good become obviously out of place, and new ones that are more in line are painfully ground out, and worked into the continuity. A new gag might suggest a whole sequence of additional business, so it's eagerly pounced upon, fed, nurtured, and takes its place in the story. Of course, the continuity should be well enough set to withstand the assaults of all the new angles, twists and approaches that are bound to come up and threaten to throw the whole works off the track.

After the continuity seems to make sense and to move properly, action and gags are broken down to a certain number of sketches—using enough drawings to portray the business clearly. A good story sketch should represent a composite of the action in a scene. Exceptional care is devoted to developing just the right sort of pose or expression on a character, in order to punch the story point in the strongest way. Weak, indefinite poses are out, for they are only too liable to suggest that the story man was uncertain as to the attitude of his character. Animators are quick to climb all over indefinite business. They demand a clear-cut conception of a character's feelings, mood, and action before they can transform it into life on their animating desk. So, every sketch has to mean something in telling the story.

Sketches are generally executed in pencil, with just enough shading and details to make them read clearly. There is a prejudice against "noodling" with story sketches, that is, making them too fancy with trick shading, color, background, because there's always the possibility that a change of thought tomorrow will consign many of today's drawings to the wastebasket. Story sketches should be purely functional, and not designed to satisfy anyone's aesthetic appetite.

Sometimes a color sketch is added to the continuity at spots where color, atmosphere and background effects play an important role in telling the story. It is up to the story man's good judgment to use color where it will do the most good, and not splash it all over the board with artistic abandon. In most cases, simple black-and-white sketches are all that's needed to illustrate the continuity. Cartoon men have become sufficiently skilled in imaginative visualization to be able to read into story sketches all that will eventually evolve from them as a finished picture, even in Technicolor.

Illustrating this article are story sketches from a sequence in Walt Disney's latest feature, "Bambi," which is due to be released soon. They represent the fine degree of draftsmanship that can go into the sketches of this sort. In this particular sequence, the proper drawing of the characters meant everything so far as putting over the gags were concerned, and the sketch man labored hard and conscientiously in developing the right attitudes and expressions.

This stage of story development is the ultimate polish the story man gives it before moving it to the hands of a director for animation. It represents weeks of planning and sweating on the part of a story man and sketch artist, as well as hours spent in group meetings hash-

ing over every gag and situation

When a story continuity reaches a certain stage of development, meetings are held to decide on improvements, changes, and to pass judgment generally. Amid a haze of cigarette smoke and a storm of words, the story is gone over with a fine tooth comb, torn apart, analyzed and improved, and the continuity reset—until the next meeting. Those present in such a meeting usually include the director who'll handle the picture in production and who's present to make sure he's getting some funny stuff, an animator or two, and maybe a couple more story men just to kibitz.

A secretary sits over in one corner with a stenotype, faithfully recording, ad verbatim, everything that's said. The poor girl sometimes has quite a time getting everything down, especially if the whole gang gets to talking at once. Then she has to glean the wheat from the chaff. These notes prove invaluable for later reference, as no one is expected to remember all of the suggestions that pop forth in a meeting. Later, when the storm is over, the story man can catch his breath and sit down in peace and quiet, recapitulating the changes that were brought up in the meeting.

In a story meeting, it is up to the story man to explain the stuff on his boards, pantomiming all of the action as he talks, going through all the dialog, whistling tunes if necessary, being cute, coy and dramatic by turn; in short, a one-man show. Some story men get so wrapped up in their acting that they all but knock themselves out! The only danger with this is that they are liable to be funnier than the business they're explaining, and thusly a story passes muster on the basis of the story man's ability as a comedian and not so much on the value of its gags. The thing to do in a case like this is to send the story man out into the theaters instead of the picture.

After everyone's had his crack at the continuity, the story man is left to put the pieces back together again. Sometimes a story is left pretty well intact after a meeting, other times it's torn apart and strewn all over the floor. In this case, it means going back almost to scratch and starting all over again. However, changes as drastic as that aren't any reflection on the story man. Ideas are intangible elements, and a good story can always be made better by new, unforseen inspirations.

If a meeting leaves the continuity pretty much as it was, all that's left to be done before it moves into a director's hands for production is to make slight changes here and there which will tighten it up. This final polishing process is just so much work from the standpoint of the story man. The first spontaneous rush of creation that accompanied the early stages of slapping a continuity together has long since ebbed. Comes now the detailed process of sharpening up business, improving a story sketch, adding a gag, and bringing the staging and cutting as close to home as possible.

In doing this, the finished production is kept in mind constantly, for only by considering how a gag or piece of business is going to look on the screen can their values be accurately judged.

A screen writer for live-action pictures seldom worries about the staging, cutting, or "filmability" of his material, that's the director's worry. And a big worry it sometimes is! Since the writer works only with words it's difficult for him to visualize a practical picturization of what he's writing about.

A cartoon story man, on the other hand, works entirely with pictures in the planning of his ideas, and it's entirely feasible for him to make a practical stab at cutting and editing the picture while it's still in story form. Live-action pictures might well take a lesson from cartoons in practical production planning, especially with all the present hue and cry about film conservation!

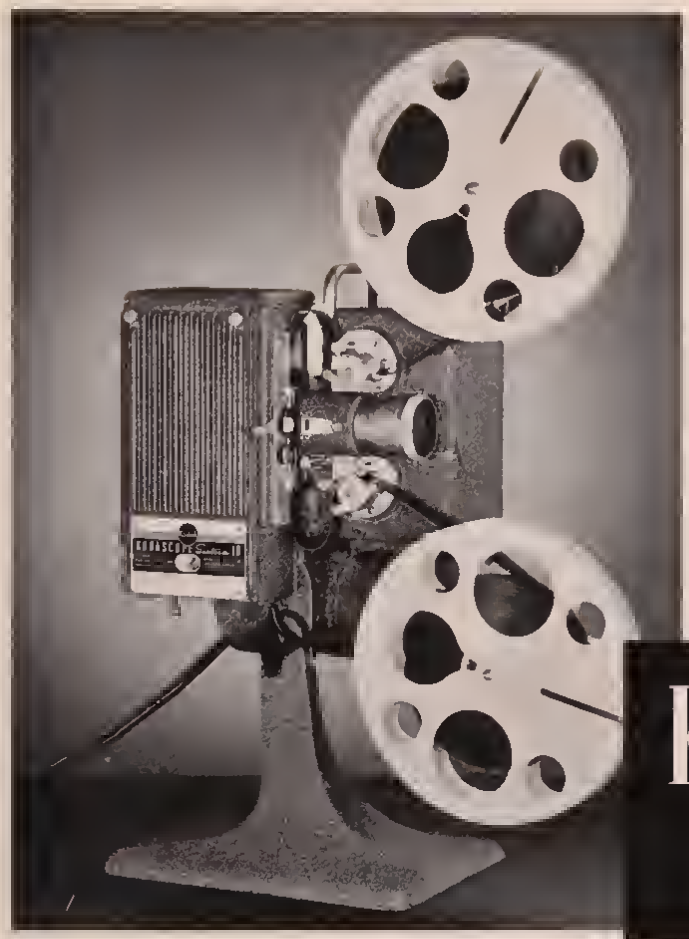
Actual production sometimes overlaps the story function to the extent that the dialog in a story, if okayed, is recorded while the continuity itself is receiving the final going-over. In this case—depending on the time and money budget allowed the story work—a "running reel" of the story may be prepared, which means that a rough timing is given the entire story, each story sketch photographed for the complete footage necessary to depict the action it represents, and a dialog track is cut together to run in sync with this picture reel. If music has an important part in the dramatic effect of the story, a rough piano or organ track is prescored for certain sections.

This running reel, then, is a true representation of the story as to length and timing as it will appear on the screen, only instead of the action moving, it is approximated by the still poses of the story sketches. In this way, a sure check is made on the "screenability" of the business and the tempo of the picture while it is still in a fairly malleable state. Changes made after a picture reaches animation state are always costly and wasteful.

Finally the director who's to handle the production of the picture takes over from the story man in what's called a "pickup meeting." In this meeting, all the men who are to share in the work of pushing the picture through production are given a chance to become acquainted with it, the director, his assistant, the layout man (who will design the settings for the picture and who functions in a manner similar to a live-action art director), the animators, and the musician. The story man then has one last fling at explaining the continuity, unloads the whole works onto the collective shoulders of the director's unit—and turns his attention to a new story to start he fun all over again.

* * *

(The next installment will deal with the next stage of the production of a cartoon from the director's angle—timing of action recording dialog and sound effects, planning layouts and staging and handing scenes out to animators.)



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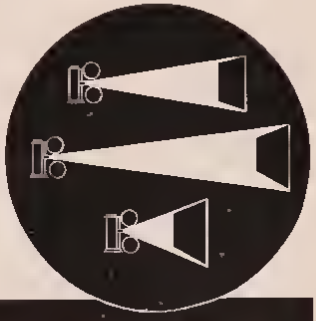

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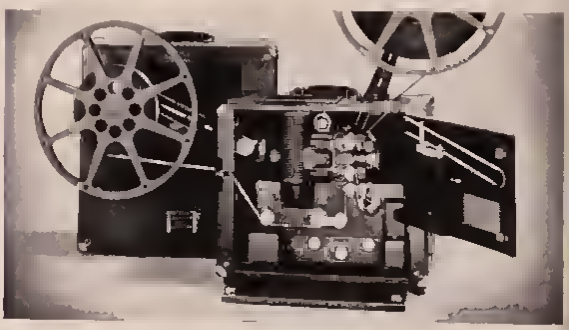

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